

S. HRG. 114-294

**FAA REAUTHORIZATION: AIR TRAFFIC CONTROL
MODERNIZATION AND REFORM**

HEARING
BEFORE THE
**COMMITTEE ON COMMERCE,
SCIENCE, AND TRANSPORTATION**
UNITED STATES SENATE
ONE HUNDRED FOURTEENTH CONGRESS
FIRST SESSION

MAY 19, 2015

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ONE HUNDRED FOURTEENTH CONGRESS

FIRST SESSION

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FAA REAUTHORIZATION: AIR TRAFFIC CONTROL MODERNIZATION AND REFORM

TUESDAY, MAY 19, 2015

**U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
*Washington, DC.***

The Committee met, pursuant to notice, at 10 a.m. in Room SR-253, Russell Senate Office Building, Hon. John Thune, chairman of the Committee, presiding.

Present: Senators Thune [presiding], Wicker, Blunt, Ayotte, Fischer, Moran, Heller, Gardner, Daines, Nelson, McCaskill, Klobuchar, Blumenthal, Schatz, Markey, Booker, Udall, Manchin, and Peters.

OPENING STATEMENT OF HON. JOHN THUNE, U.S. SENATOR FROM SOUTH DAKOTA

The CHAIRMAN. Today the Commerce Committee concludes its series of planned hearings on reauthorization of the Federal Aviation Administration with an examination of the Nation's air traffic control system.

Let me begin by thanking Aviation Subcommittee Chair Ayotte and Ranking Member Cantwell for taking us through several valuable hearings on the way to this full committee hearing. It has been a busy work period and a great deal of progress has been made, thanks to their efforts.

The U.S. Air Traffic Control, or ATC, system involves thousands of dedicated air traffic controllers guiding tens of thousands of flights safely across the country on a daily basis. We can all be proud of the system's safety record.

At the same time, increasing demand, the need to improve efficiency, and changes in technology all underscore the need to modernize a system that is still radar-based and operated using concepts and procedures developed decades ago.

Efforts to modernize ATC hardware and software have made some progress recently but the long view indicates modernization programs have often taken too much time and cost too much.

We have stacks of reports from the DOT's Office of Inspector General and the Government Accountability Office detailing the implementation delays and cost overruns that have plagued these efforts for decades and stymied leadership from multiple administrations.

The most recent and visible initiative in this area is the Next Generation Air Transportation System, or NextGen. Before NextGen was given a name, the original goal was something called

“Free Flight,” which was expected to result in a genuine transformation of the system away from air traffic control to air traffic management.

Taking advantage of GPS for navigation and surveillance was at the heart of this idea. As initially envisioned, FAA would save money eliminating most radars and airspace operators would save time, money, and fuel by choosing their own direct routes.

But more than 15 years after the FAA began talking about Free Flight, we still seem to be more than a decade away from anything resembling it. In fact, a recent study by the National Research Council concluded that NextGen currently seems to be more about incremental programs and improvements rather than a transformational change.

Also, airlines and other operators in the system now feel burdened with the expense and effort of implementing changes that will not yield direct benefits for them for many years to come.

This situation has led several stakeholders and policy makers to question whether the current ATC structure is best suited for the tasks at hand. Long-standing difficulties with modernization are just one reason to consider reform.

The system’s reliance on annual transportation appropriations and the vagaries of the political process make long term planning for system capitalization and management of the agency’s footprint difficult and probably more costly.

The FAA will always face challenges attracting and retaining the talent needed to drive major technological change when it must compete with cutting edge businesses in the private sector.

To address these challenges, we must carefully consider if there is a better way to deliver ATC services for the traveling public and airspace users, and I am open to considering all ideas.

FAA has a great record as a safety regulator, something that would certainly continue if air traffic control services were moved out of the FAA or government.

Many countries around the world have undergone such transitions with success, and I look forward to hearing from our witnesses about what reform of our system might look like and how reform could serve the needs of all airspace users.

To be sure, the matters we discuss today are just part of a larger effort on FAA reauthorization where we will address a host of other important issues. I am looking forward to working with Ranking Member Nelson, as well as Senators Ayotte and Cantwell, and other members of the Committee to advance such legislation.

Last, I want to stress that our interests about ATC modernization are not focused only on the current leadership team at FAA. As I mentioned before, it seems clear there are structural limitations that have impeded success over the years. I suppose the key question is whether, if we were to build an air traffic control system from scratch today, we would necessarily conform to the old strictures or strike a better path.

I look forward to this discussion, and now want to turn to my colleague, Senator Nelson, the Ranking Member, for his opening remarks.

**STATEMENT OF HON. BILL NELSON,
U.S. SENATOR FROM FLORIDA**

Senator NELSON. Thank you, Mr. Chairman. Senator Thune joins me to acknowledge the families of those lost on Colgan Air Flight 3407. Your presence here is a reminder of how much is at stake with the safe operation of our aviation system, so thank you for being here.

Obviously, we have the busiest, the most complex airspace in the world, and thanks to the hard work and the dedication of the FAA employees, we have an agency that is providing the safest, most efficient airspace in the world, yet the negative impacts of the uncertainty of the funding and the sequestration have led to widespread concern about the funding of Federal programs and the Federal operations.

If you take a meat cleaver approach instead of the scalpel approach, the sequester forces irresponsible budget decisions in our domestic and defense programs.

Some of you are going to suggest that the answer is to privatize the FAA and air traffic control. This Senator feels like we ought to get budget certainty and repeal sequestration. If we do not, the situation will worsen when additional budget cuts return in 2016.

The FAA has faced unpredictability for too long. The last FAA bill took 4 years and involved 23 extensions and a partial FAA shutdown. The good news is that Senator Thune and I are working together, we are going to do anything possible to get this FAA re-authorization going.

In the past, because of that uncertainty, because of that sequestration, the FAA has had to furlough employees, implement a hiring freeze, temporarily close their Academy, and halt a lot of the work that I have had the privilege of seeing with the Administrator on the NextGen programs.

This has set the FAA back in its progress to advance air traffic control modernization. The conversation about moving air traffic control into private not-for-profit entities has impact far beyond you witnesses here today.

Take, for example, the Department of Defense. They share a responsibility for controlling airspace with the FAA, and they have for more than 65 years. Today, the Department of Defense controls about 20 percent of our airspace for civilians as well as the military.

FAA and DOD coordinate activities to ensure our military can train warfighters, test new concepts, equipment, and defend the Nation. Air defense right here in the continental U.S.

No other country in the world has the defense assets of the U.S., and we must ensure that our defense interests are not harmed by removing the government from air traffic control, and I can tell you the Department of Defense has visited me, and they do not want any of this privatization.

Look at the airlines. Even the airlines are not in agreement. Let me quote from a letter from Delta: "Rather than wasting months of collective energy only to find ourselves with a less efficient, less responsive, more bureaucratic-like, costlier new monopoly service provider, we should instead focus our efforts on achieving real reform in the next authorization that brings about tangible benefits

for operators and more importantly for the traveling public.” That is Delta.

Since aviation is the backbone of our U.S. economy, we must prioritize air traffic control investments for the good of this country.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Nelson. We have a great panel today led off by the Honorable Michael Huerta, Administrator of the Federal Aviation Administration. He will be followed by the Honorable John Engler, who is currently the President of Business Roundtable, and of course, a former Governor.

The Honorable Byron Dorgan, Senior Policy Analyst at Arent Fox, former colleague of ours from the other Dakota, and also a former member of this committee.

Mr. Jeff Smisek, Chairman, President and CEO of United Airlines. Mr. Paul Rinaldi, President of the National Air Traffic Controllers Association, and Mr. Ed Bolen, President and CEO of the National Business Aviation Association here in Washington.

A great panel, we look forward to hearing from all of you. We will start on my left and your right with the Administrator. Mr. Huerta, please proceed.

**STATEMENT OF HON. MICHAEL P. HUERTA, ADMINISTRATOR,
FEDERAL AVIATION ADMINISTRATION**

Mr. HUERTA. Thank you. Chairman Thune, Ranking Member Nelson, members of the Committee, thank you for inviting me to speak today about the reauthorization of the FAA.

The upcoming FAA reauthorization provides us with the opportunity to propel our system to the next level of safety and to foster the kind of innovative climate that has long been the hallmark of our proud aviation heritage.

This reauthorization has provided a forum for many in industry and government to openly discuss possible changes in the governance structure of the FAA and to help us create the aviation system that will sustain our Nation’s economic growth well into the future.

We are open to having this discussion, but we must all agree on the most important problems reauthorization should fix. In our view, those are budget instability and the lack of flexibility to execute our priorities.

These challenges exist for the entire agency, not just for the air traffic control system and the NextGen organization, as some have suggested. In addition to finding agreement on the problem we are trying to solve, we should agree on finding ways to avoid unintended consequences.

Our ability to deploy NextGen technologies and capabilities hinges on interdependencies and relationships within the agency. NextGen is more than installing technology in our air traffic facilities and on aircraft. It involves the close participation of our safety organization to ensure that the technology is safe and the controllers and pilots know how to use it safely.

We believe that any decision about governance must take into account these issues so that we may best serve our nation and the flying public.

Some have argued for change saying the FAA has not delivered on air traffic modernization. I would argue that the FAA has already made major progress in modernizing our airspace system through NextGen.

We completed the installation of a more powerful technology platform with our new high-altitude air traffic control system, known as ERAM. This system will accommodate the applications of NextGen and allow controllers to handle the expected increase in air traffic efficiently.

Last year, we finished the coast to coast installation of the ADS-B network that will enable satellite-based air traffic control.

On a parallel track, through our collaboration with industry, we identified key priorities in implementing NextGen air traffic procedures. We now have more satellite-based procedures in our skies than traditional radar-based procedures. We have created new NextGen en routes above some of our busiest metropolitan areas, saving millions of dollars in fuel, decreasing carbon emissions, and cutting down on delays in each city.

In addition to these improvements, we have set clear priorities on delivering more benefits in the next three years. These range from improved separation standards for heavy aircraft, better coordination of traffic on the airport surface, and streamlined departure clearances using data communications.

NextGen has already yielded \$1.6 billion in benefits to airlines and the traveling public. In the next 15 years, the changes we have already made will produce \$11.5 billion in benefits.

We recognize, however, that it is not enough to rely on projected benefits. That is why we go back and study the benefits that certain improvements have provided to users.

For example, in Atlanta, we safely reduced weight separation standards to improve efficiency at the airport. Because of this change, Atlanta's Hartsfield-Jackson International Airport has increased the number of planes that can land by up to 5 percent or about five planes more per hour. Delta Airlines is also saving up to two minutes of taxi time per flight. These improvements are saving them between \$13 million to \$18 million in operating costs annually.

We are aware of the criticisms of the FAA's implementation of NextGen. I would like to explain our approach. There are different theories about how to deploy technology in a complex operating environment. Some take the position that you should start from a wide ranging vision and work back from there in developing a range of scenarios. Others suggest mapping out the entire picture and only proceeding when you are sure of the end gain.

Others say to take a more pragmatic approach, and this is the path the FAA has chosen, based on close consultation with industry. This approach, used by the Office of Management and Budget, closely matches investments with tangible benefits to airlines and passengers.

We acknowledge that it requires up front investment, but we are careful not to strand programs in the middle of implementation.

When dealing with widespread change in the dynamic airspace system, there is no margin for error. The system must transport 750 million passengers every year with the highest levels of safety.

Any technology we implement must be reliable and safe from the outset. To achieve this high standard, we must remain nimble and we must have flexibility.

Our aviation system is a valuable asset for the American public. We should use the upcoming reauthorization to provide the FAA with the tools necessary to meet the demands of the future and to minimize disruption to the progress we have already made with NextGen and our work to integrate new users into our airspace system.

I thank you for the opportunity to appear before your committee today, and I am happy to take your questions.

[The prepared statement of Mr. Huerta follows:]

PREPARED STATEMENT OF HON. MICHAEL P. HUERTA, ADMINISTRATOR,
FEDERAL AVIATION ADMINISTRATION

Chairman Thune, Ranking Member Nelson, Members of the Committee:

Thank you for inviting me to speak with you today on the future direction of the FAA. The FAA has a tremendous opportunity to make a difference for stakeholders by laying the foundation for the National Airspace System (NAS) of the future. We are focusing our accomplishments on well-defined strategic priorities, including achieving the benefits of the Next Generation Air Transportation System (NextGen).

In the context of FAA reauthorization and the future direction of the FAA, some members of the aviation community and of Congress have discussed making governance changes at the agency. The Administration welcomes the opportunity to evaluate any governance-related proposals and we look forward to having those discussions with Congress and stakeholders. We would anticipate, however, that any such proposal that might include a fundamental shift in current policy would need to be very clear in its identification of both the issue to be solved and a proposed mechanism to resolve it. While we would not support a fundamental change for the sake of change alone, we remain open-minded and welcome the chance to further engage with you on that subject.

Further, with respect to reauthorization, some of the major challenges facing the FAA involve funding levels, funding stability, and flexibility. We believe that any governance-related proposals would need to address these issues while ensuring that our Nation continues to maintain the safest and most efficient airspace system today and in the future.

The needs of the system and the aviation community it serves are evolving. New users, such as operators of unmanned aircraft systems and commercial space vehicles, are entering our Nation's airspace with increasing frequency. As we invest in long-term modernization and recapitalization projects and build on the successes of NextGen, we also have to think about sustaining critical parts of our existing infrastructure, much of which is beyond its projected useful life. We have to address these challenges in a budget environment with a great degree of uncertainty. We are increasingly being asked to do more with less.

In recent years, funding uncertainties resulting from sequestration, government shutdowns, and short-term reauthorization extensions have hindered the FAA's ability to efficiently perform our mission and have impeded our ability to commit to long-term investments. The FAA has grappled with funding challenges by focusing and prioritizing its work, knowing that we cannot continue to provide all of the services we have in the past and understanding that safety cannot be compromised. We're having discussions with our stakeholders about what we might be able to consider no longer doing, or do differently, through innovative business methods and technologies. We look forward to working with the aviation community and Congress to form consensus on the appropriate path for the future direction of the FAA.

Looking ahead, the benefits that we continue to deliver through NextGen will enable a safe and efficient NAS of the future that will meet the needs of its users. NextGen is increasingly delivering benefits to system users, such as reduced fuel costs, reduced delays, reduced environmental impacts, and increased safety. In the midst of funding challenges, the agency has focused resources on leveraging available technologies to deliver near-term NextGen benefits. This strategy has paid off. For example, the FAA's Metroplex program improves airspace efficiencies in major metropolitan areas, simplifying air traffic flows. In collaboration with the aviation industry, the FAA is working with 11 busy metropolitan areas where improved air

traffic performance could benefit not only the region but the entire national airspace. The FAA works with collaborative teams of air traffic controllers, airport officials, airline representatives, general aviation operators, other industry stakeholders, and community representatives to study, design, and implement comprehensive approaches for each Metroplex. Metroplex solutions include Performance-Based Navigation (PBN) procedures that enable aircraft to fly more directly from departure to destination by using satellite signals and airspace redesign. The FAA has introduced into the NAS more than 7,000 PBN procedures.

A recent example of the success of Metroplex is the 60 new routes into and out of Houston Metroplex airports that were launched last year. The initiative improved merging techniques that begin aligning planes hundreds of miles away. The preliminary data from the analysis of the Houston Metroplex implementation identified \$6 million in annual savings and a reduction of 400,000 fewer nautical miles flown each year, reducing carbon emissions by 20,000 metric tons and saving operators 2 million gallons of fuel. That's like taking more than 4,000 cars off the streets.

In addition to focusing on near-term benefits, we continue to invest in new infrastructure to support precision satellite navigation; digital, networked communications; integrated weather information; and more. When the next generation transformation was in its infancy, the Government Accountability Office described the effort as "staggering." When I joined the FAA team in 2010 as Deputy Administrator, I experienced that the program was already on its way to new levels. Today, I am proud to report the completion of a major milestone that will enable NextGen solutions. We've finished installing our new high altitude air traffic control system known as En Route Automation Modernization (ERAM), one of the largest automation changeovers in the history of the FAA. ERAM is fully operational at the 20 FAA en-route centers across the continental United States. This network replaces the HOST computer system that had its roots in the 1960s.

ERAM is the backbone of the Nation's airspace system. More than simply a faster computer, this new system is a network of computers designed to know about your flight, where you plan to go and how you plan to get there, from the moment you enter the national airspace from anywhere in the country. ERAM's flexible and expandable system design will accommodate en-route processing necessary for NextGen technologies such as Automatic Dependent Surveillance Broadcast (ADS-B) services, System Wide Information Management, and Data Communications. ERAM processes data from nearly three times the number of sensors as the legacy system. With this system in place, we're able to make available new tools for our air traffic controllers including the ability to track more high altitude flights, which will result in more efficient routing, reducing fuel burn and improving the predictability of airline schedules.

What we've achieved with ERAM was facilitated by introducing increased discipline and structure to the way we do business at the FAA. In 2012, we created a Program Management Organization to better manage the deployment of this and other technology. We also worked closely with our air traffic controllers, who provided feedback throughout the system development phases. The fact that we turned ERAM around, and that it is now operating nationwide, is a testament to what the FAA can accomplish as an agency when it sets milestones and pulls together to make fundamental changes.

ERAM links with ADS-B, a more precise and efficient satellite-based alternative to radar that will revolutionize how we manage our Nation's air traffic. ADS-B opens up new routes to air carriers and increases capacity. Last year, we completed nationwide deployment of the ADS-B ground stations. The FAA is currently providing nationwide broadcast services to equipped users. We are working closely with the entire aviation community, including general aviation operators, to work toward the mandatory ADS-B Out equipage by January 1, 2020 deadline. For aircraft with the additional equipment, which is not required by the 2020 deadline, ADS-B delivers traffic and weather information directly to the cockpit, giving the pilots more information and awareness.

The success of NextGen is not the FAA's alone. Collaboration with all stakeholders, including the aviation industry, our union members, and Congress, is key to its success and we can continue to leverage one another's commitments to produce benefits. Last year, subject matter experts from the FAA met with aviation industry representatives to determine what high-benefit, high-readiness NextGen capabilities the FAA will be able to accomplish in the next one to three years, and what industry commitments are necessary for those activities to be successful. The FAA and the NextGen Advisory Committee (NAC) worked together to reach agreement on a joint implementation plan consisting of capabilities within four focus areas. Taken together, this plan will advance our navigation capabilities through PBN, increase capacity on parallel runways through Multiple Runway Operations,

enhance airport surface operations through data sharing, and introduce Data Communications between cockpit and air traffic control. The plan identifies timelines, specific locations, and costs for each priority. These priorities leverage equipment that operators have already invested in for other capabilities.

We hope the benefits that stakeholders are realizing in these areas will incentivize them to make larger NextGen investments. A prime example of the benefits already being achieved through this focused collaboration with industry is the more narrowly tailored and safely defined wake turbulence separation standards, which are based on the performance characteristics of aircraft and have been implemented at several major airports across the Nation. This Re-categorization of Wake Turbulence Separation Minima (RECAT) updates and decreases separation standards, which are primarily based on aircraft weight classes. Because of wake RECAT, FedEx can take advantage of a 13 percent increase in departure capacity at Memphis. Passenger carriers are seeing the benefit, too. At Atlanta's Hartsfield-Jackson airport, Delta Airlines and FAA have found a one and one-half minute reduction in departure queue delays. Delta projects to save \$14–19 million dollars in operating costs over a one-year period.

The FAA will rely on the same high degree of collaboration with industry as we monitor our progress against the milestones in the plan. The agency is conducting internal meetings at least monthly to monitor progress against the plan, while the NAC will work with industry stakeholders to ensure their commitments are funded and met. Progress reports are provided publically through the NAC, and the FAA is reporting progress against the milestones on its NextGen Performance Snapshot website. To date the FAA has completed 17 of the plan's milestones, including two that were finished ahead of schedule. Industry has also met its commitments. This is a significant beginning that demonstrates the great potential for future partnerships between the FAA and industry to move the NAS forward.

Last year the FAA convened a call to action to engage the aviation industry in meeting the January 1, 2020 deadline to equip aircraft with ADS-B Out. FAA experts and industry leaders identified barriers delaying operators from equipping and formed the Equip 2020 working group to collaboratively resolve those issues. The goal of Equip 2020 is to ensure the fleet is equipped with technology to utilize the benefits of the ground ADS-B infrastructure. The collaborative aspect of the Equip 2020 working group put the right stakeholders together to solve one of the general aviation (GA) community's biggest barriers: cost of equipment. Low-cost equipment options are now available from manufacturers; those products and other available avionics are tracked in a database with suppliers' equipment data and air carriers' purchasing data. Analysis of these equipage trends will indicate potential risks to achieving compliance by the deadline so that we may adjust our efforts as necessary. To further assist GA owners determine their compliance options, the FAA has created an easy to navigate Equip ADS-B website¹ and will host information sessions across the country this year. We need to continue to ensure that users of the system make timely and necessary equipage investments to maximize the widespread deployment of NextGen. Government and industry have a shared responsibility to create the aviation system that will carry this Nation well into the 21st century.

If you look objectively over the last five years, the FAA has made major progress on both completing NextGen's foundation and expanding the delivery of NextGen benefits to the users of the system. Continuing to build the NAS of the future and accommodating new services will require difficult decisions. The aviation community is diverse and does not always see eye-to-eye. Nevertheless, I believe consensus on the future direction of the FAA is absolutely critical if we are going to resolve our long-term funding challenges. We need stable, predictable funding to effectively operate our air traffic control system, build on our investments in NextGen, and efficiently recapitalize our aging facilities. This would best be achieved with the passage of a long-term reauthorization bill.

Chairman Thune, Ranking Member Nelson, I look forward to working with you and the Committee as we move forward toward a reauthorization bill.

The CHAIRMAN. Thank you, Administrator Huerta. Mr. Engler?

¹<https://www.faa.gov/nextgen/equipadsb/>

STATEMENT OF HON. JOHN ENGLER, PRESIDENT, BUSINESS ROUNDTABLE AND FORMER GOVERNOR, STATE OF MICHIGAN

Mr. ENGLER. Good morning, Mr. Chairman, committee members. Thanks for the opportunity to testify this morning.

The Business Roundtable members include leaders of major U.S. aerospace companies. Every one of our members relies on air transportation as customers of cargo and passenger airlines.

As the 20th century drew to a close, U.S. aviation set the standard for the world's largest, safest, most technologically advanced system. Sadly, we have lost our preeminent position and our future leadership is in doubt. The U.S. air traffic system remains the world's largest, the world's safest, but it is not the most technologically advanced nor the world's most cost effective.

Our national air traffic control system relies on essentially the same technology, ground-based radar and voice radio transmission, as it did in the 1960s. Almost all of the FAA's surveillance technology is still analog.

Like many other stakeholders, we are concerned about the halting pace of the modernization represented by the FAA's NextGen program. A National Academies report that was released this month clearly stated the problems, the original vision for NextGen is not what is being implemented today. Airlines are not motivated to spend money on equipment and training for NextGen.

A modern innovative air traffic control system would offer tremendous benefits to the users of the airspace; more efficient flight paths, reduce fuel consumption and crew time, lower emissions and less noise pollution, global commercial leadership leading to expanded exports, and increase services to small community airports.

What are the obstacles? Last year, FAA Administrator Huerta offered one explanation in a speech at the Aero Club of Washington, and I quote "There is simply no way the FAA can implement NextGen, recapitalize our aging infrastructure, and continue to provide our current level of services without making some serious tradeoffs," something Senator Nelson referred to really in his opening comments.

Administrator Huerta and I would agree, I believe, on this critical point, the current funding system clearly does not provide the needed resources, but a deeper problem is the broken budgetary process itself, which prevents the FAA from pursuing the kind of step by step technological improvement that is standard elsewhere, certainly in the business world.

For an example of what works, look at AT&T and Verizon. In the years the U.S. Government has been talking about NextGen, four generations of cellular technology from powering a basic flip phone to 4G streaming video in today's modern iPhone have been adopted.

The FAA is trying to fund a \$20 billion capital modernization effort out of annual and unpredictable cash flow. Most other transportation sectors issue long term revenue bonds to finance large capital modernization, but bonding is something the FAA cannot do. States do it. The private sector does it. The Federal Government does not.

I convened at the Roundtable an expert group to help study this issue, including former FAA and Transportation Department offi-

cials, knowledgeable aviation policy advisors. Their conclusion, the status quo is simply too costly and too inefficient.

They identified the necessary elements of an alternative system—separation of the air traffic control operator from the regulator to improve transparency and accountability, and to further increase safety, an organizational structure that accounts for multiple objectives so that safety and access are valued along with cost efficiency.

Governance of the air traffic control by a board appointed by stakeholders. A revenue structure that enables air traffic control to be fully self-supporting, without government financial support, and completely free of the Federal budgetary process.

The ability for air traffic control to finance capital expenditures and accelerate modernization. Wage and benefit structures to protect employees, prevent disruption of employees' reasonable career expectations, and preserve a collaborative culture.

Over the last two decades, most other Western countries have restructured the way air traffic control is funded and governed, determining that it is a high tech service business, part of critical infrastructure that could be funded directly by its aviation users and customers.

Separating air traffic control into an entity independent from the rest of the FAA is a manageable process. Tools and precedents exist for addressing the risks that come with any innovation, and a thorough planning process is, of course, necessary.

In the end, I hope that you as the Senators responsible for the oversight of the FAA use the reauthorization process to put America on a trajectory to a modern air traffic control system that is again the gold standard for the world.

Now is the time for decisive bipartisan action to restore America's global leadership. The Business Roundtable looks forward to working with you to achieve these important goals. Thank you for the opportunity, members.

[The prepared statement of Mr. Engler follows:]

PREPARED STATEMENT OF HON. JOHN ENGLER, PRESIDENT, BUSINESS ROUNDTABLE
AND FORMER GOVERNOR, STATE OF MICHIGAN

Good morning, Chairman Thune, Senator Nelson. Thank you for the opportunity to join you this morning to testify on the operation and needed modernization of the Nation's airspace.

I'm pleased to speak on behalf of Business Roundtable, an association of more than 200 CEOs of major U.S. companies. Business Roundtable's CEO members' lead companies with \$7.2 trillion in annual revenues and nearly 16 million employees. These companies comprise more than a quarter of the total market capitalization of U.S. stock markets and invest \$190 billion annually in research and development—equal to 70 percent of U.S. private R&D spending. Our companies pay more than \$230 billion in dividends to shareholders and generate more than \$470 billion in sales for small and medium-sized businesses annually.

Aviation is critically important to all members of Business Roundtable. Today, civil aviation in the United States accounts for 5.4 percent of our GDP, contributes \$1.5 trillion in total economic activity each year, and supports 11.8 million jobs. Business Roundtable's members include leaders of major U.S. aerospace companies, but more broadly, every one of our members relies on air transportation every day as customers of cargo and passenger airlines. For example, 30 to 40 percent of all daily airline passengers are making trips for business purposes.

The CEOs of Business Roundtable are global leaders in their respective industries, and they recognize the value of American leadership in aviation. The United States was, of course, site of the Wright Brothers' historic first powered flight in

a heavier-than-air vehicle. Commercial airlines developed in this nation, and so did air traffic control; begun initially by a nonprofit, federally chartered corporation, air traffic control was taken over by the Federal Government during the Great Depression. Following World War II, commercial and general aviation boomed in the United States. As the 20th century ended, our aviation system still set the standard as not only the world's largest but also the world's safest and most technologically advanced.

Sadly, our preeminent position has been lost and our future leadership is in doubt. The U.S. air traffic system remains the world's safest and the world's largest. But it is not the most technologically advanced, nor the world's most cost-effective.

The Business Roundtable last year conducted an analysis that superimposed Canadian rates for air traffic control services on U.S. flight data, and preliminary results suggest that, in aggregate, the Canadians are delivering services for lower cost than the FAA today. Canada's cost advantage may result partly due to a less-complex airspace than the United States—and complexity drives cost—but one would expect that the larger-scale U.S. operation would also create its own efficiencies and lower costs.

Unfortunately, neither business leaders nor the flying public can take the future health of U.S. aviation for granted. Challenges with the FAA's provision of air traffic control services have existed for decades, but are now becoming more acute. FAA has failed to keep its equipment modernized for the entirety of its history, including during times of budgetary plenty. Our national air traffic control system relies on essentially the same technology—ground-based radar and voice radio transmission—as it did in the 1960s. FAA is operating Enroute Centers that are mostly over 50 years old. Almost all of the FAA's surveillance technology is still analog. And the FAA trains controllers now the same way it did more than 20 years ago.

Like many other stakeholders, we are concerned about the slow and uncertain pace of the modernization effort represented by the Federal Aviation Administration's NextGen program. Like you, we read the numerous reports by the Government Accountability Office and the Department of Transportation Inspector General documenting cost overruns and late delivery of new systems. The most recent report, from the National Academies, released at the beginning of this month was particularly damning when it said:

- “The original vision for NextGen is not what is being implemented today.”
- “This shift in focus has not been clear to all stakeholders.”
- “Airlines are not motivated to spend money on equipment and training for NextGen.”
- “Not all parts of the original vision will be achieved in the foreseeable future.”

These reports identify underlying problems that have led stakeholders to question whether we have the best model—not just for delivering NextGen but also for the ongoing operation and management of what used to be the world's most advanced air traffic control system.

The fact that the FAA has been consistently behind when it comes to innovation isn't just an inconvenience—it has real costs for the users of the airspace and the public at large.

Airlines and independent aviation all bear significant costs because of less-than-optimal routings and excessive block times. From the standpoint of airlines and other aircraft operators, reducing delays will mean important savings in fuel and crew time, their two largest operating costs. And with intelligent consolidation of air traffic control facilities, enabled by 21st-century technology, the unit cost of services will be reduced, yielding further cost savings for aircraft operators. Retiring many obsolete facilities and ground-based navigation aids will produce additional cost savings.

These lost benefits for airlines and aircraft operators translate to unnecessary delays for shippers and travelers, including the huge numbers who are traveling every day on business. Advanced technologies and procedures would enable more planes to land and take off safely on existing runways, reducing delays. Likewise, more direct flight routes at the altitudes with the most favorable tailwinds will speed up flights and also reduce delays. Last year, President Obama estimated the potential reduction in airspace delays at 30 percent. Even if that number is a little high, I was glad to hear the president acknowledge the kinds of benefits a modernized system will provide.

Unnecessary time flying in the air also means adverse environmental impacts. More direct routings and optimized flight paths will reduce aviation fuel consumption and thereby cut CO₂ emissions. Shorter and more-precise landing paths (like

those implemented in Seattle) will reduce noise exposure around airports, which may make it easier to add critically needed runway capacity around the country.

And, as I mentioned earlier, the FAA's failure to keep its systems updated also means that the U.S. is no longer the global leader in aviation. A modernized air traffic control system would advance America's global commercial leadership by expanding export opportunities. Overseas sale of technologies developed and deployed in the United States would allow highly innovative U.S. aerospace companies to expand their global market and increase domestic employment.

In testimony last November before the House Transportation and Infrastructure Committee, I said that funding is the most obvious challenge facing the FAA. Last year's sequester served as a wake-up call for aviation stakeholders, with its furloughs of controllers and the near-shutdown of 149 contract towers. And the current sequester law has seven more years to go. The FAA's current annual budget for Facilities & Equipment is now \$1 billion less than what it was projected to be five years ago. Alarmingly, a senior FAA official recently said the agency faces a \$5 billion funding shortfall over the next seven years. With regard to NextGen, the FAA and stakeholders are currently engaging in triage, figuring out which few projects the agency can afford to pursue in the current highly uncertain funding environment.

FAA Administrator Michael Huerta, in a speech last year at the Aero Club of Washington, said: "There is simply no way the FAA can implement NextGen, recapitalize our aging infrastructure, and continue to provide our current level of services without making some serious trade-offs." The current funding system clearly does not provide the resources that are needed.

But the heart of the problem is not simply a lack of resources, but the broken budgetary process itself. The provision of air traffic control services is a technology-driven enterprise. The Federal budgetary process prevents FAA from pursuing the kind of incremental technology refreshment that is standard procedure in technology driven enterprises.

For an example of how this ought to work, look at two member companies of Business Roundtable: AT&T and Verizon. In the years we've been talking about NextGen, both have gone through four generations of cellular technology, from powering a basic flip phone to 4G streaming video in today's modern iPhone.

What the FAA is trying to do is to fund a \$20 billion capital modernization effort out of annual and unpredictable cash flow. This makes no business sense, as my CEO membership would tell you. Most other transportation sectors issue long-term revenue bonds to finance large capital modernization—including airports, pipelines, railroads, and even bridges and interstate highways. But bonding is something the FAA cannot do. Our Federal Government simply does not have a capital budget.

To accommodate the budget process, FAA does its developments in massive bundles. Infrequent updating leads to constant obsolescence and higher costs. Despite excellent contractor performance, systems are frequently out of date, even when they are newly delivered, because their specifications were designed so far in advance of delivery. Further, budgets and schedules are almost always exceeded.

This inadequate budgetary process also causes FAA management to cater primarily to Congress and OMB as its customers, rather than to the more appropriate airspace users, passengers, and shippers. As a result, today's FAA tends to be quite slow in responding to the needs of airspace users. Because of the slow development of procedures to allow for more direct routing, flights continue to follow waypoints located where bonfires guided aircraft in the early 20th century.

Finally, the combination of the air traffic control operator and its regulator within the same government agency—as we have today—is not beneficial to safety and results in a confusion of roles and responsibilities, loss of transparency and accountability, and greater frustration for users when they try to make the system work. It has also created an organizational culture that resists innovation. As this month's report by the National Academies observed:

"The FAA and the United States rightly pride themselves on a devotion to safety and an excellent safety record to match. At the same time, a conservative safety culture can affect how quickly process and technological change can happen—a challenge in an arena where technologies change rapidly. Such a culture may inhibit the adoption of new technologies or increased automation that could potentially result in net improvements in both safety and efficiency. A strong safety culture can make up for some limitations in an architecture. For example, while it is a good thing for controllers and pilots to be highly sensitive to close-calls, it would be better if the architecture and design precluded those near-misses from happening. Moreover, if the FAA is going to be held accountable for an extremely conservative safety culture—which has historically been

the case—then it should be recognized that such conservatism will understandably bias the agency away from innovation. Thus, there are risks associated with a safety culture as well, not least of which are opportunity costs due to not deploying improved (and potentially even safer) technology and procedures in the long run. In addition, excessive care regarding safety can result in the accumulation of technical debt—the deferral of significant refactoring and infrastructure refresh.”

A few years ago, I convened an expert group to help Business Roundtable study this issue, including former FAA and Transportation Department officials and knowledgeable aviation policy advisers. These experts with government and private-sector experience identified the series of challenges that I’ve outlined here and principles that must form the basis for overcoming them. The status quo is simply too costly to continue. Any alternative should include:

- Separation of the air traffic control operator from the regulator to improve transparency and accountability, and increase safety.
- An organizational structure that accounts for multiple objectives so that safety and access are valued along with cost efficiency, and there is assurance against any value-leakage outside of the operation.
- Governance of air traffic control by a board that is appointed by stakeholders (including users, employees and government interests) with a fiduciary duty to the operation.
- A revenue structure that enables air traffic control to be fully self-supporting without government financial support and completely free of the Federal budgetary process.
- Financing capability to enable air traffic control to finance its capital expenditures, accelerate its modernization and level out its cash outlays.
- Wage and benefit structures that protect employees, prevent disruption of employees’ reasonable career expectations, and preserve a collaborative culture within air traffic control.

Other countries have charted a similar course of action. Researchers have found that over the last two decades most other Western countries have restructured the way air traffic control is funded and governed—for example, in Australia, Canada, Germany, and the United Kingdom. In these and many other cases, the governments have decided that air traffic control is a high-tech service business that can be funded directly by its aviation users, who become customers, just as airlines are customers of airports. More than 50 countries have separated their air traffic control systems from their transport ministries, leading to arm’s-length regulation of air safety—just like that applied to airports, airlines, and all the other components of aviation.

While the principles I’ve outlined are accepted in other countries, they would be major changes for U.S. air traffic control. They certainly require a full assessment of their feasibility for the U.S. system. We have been holding discussions with the principal stakeholders over the past year, working to answer these many questions. As business leaders, it’s particularly important to the Business Roundtable that the business case for any new structure be sound and well thought out.

Spinning off air traffic control from the rest of the FAA and running it as a separate entity is not a particularly large or complex transaction for corporate America. Tools and precedents exist for managing the risks that come with any innovation. That doesn’t mean, however, that we don’t need a thorough planning process just as any one of the CEO members of Business Roundtable would use if they were pursuing a restructuring of this sort.

In the end, I believe the greatest risk to our system is allowing the status quo to continue or pursuing more half-measures and calling them reform. We’ve been down that path. We cannot allow the fear of change to prevent us from doing what is needed.

Instead, I hope that you, as the senators responsible for oversight of FAA, will use the reauthorization process to put America on the path to a modern air traffic control system and global leadership in aviation. Now is not the time for timidity, or minor reforms. Now is the time for decisive, bipartisan action to restore America’s leadership in aviation. Business Roundtable looks forward to working with you to achieve these important goals.

The CHAIRMAN. Thank you, Governor Engler. Senator Dorgan?

**STATEMENT OF HON. BYRON DORGAN,
SENIOR POLICY ADVISOR, ARENT FOX LLP
AND FORMER U.S. SENATOR FROM NORTH DAKOTA**

Senator DORGAN. Mr. Chairman, thank you for inviting me back to this committee. I served on this committee for 18 years, and no doubt badgered hundreds of witnesses, so maybe a turn about is fair play.

For the past two years, I and former Transportation Secretary Jim Burnley have co-chaired a project at the Eno Center for Transportation looking at the subject of air traffic control and the structure of air traffic control.

I was the Chairman of the Aviation Panel the last time we worked on reauthorizing the FAA, and I pulled up a headline from that moment where we finally succeeded, and it said "After five years of debate, 23 short-term extensions, and a partial shutdown, Congress approved the final version of the FAA bill."

My hope this time around is that your headline will be shorter and your conclusions bolder for this reason: aviation is one of the major arteries of the American economy, and the fact is, the issue of effective air traffic control is essential to that industry.

I think we have now come to an intersection where we have to decide can we retain our leadership in developing the new technology and the Next Generation air traffic control system, can we retain our leadership with the current ATC structure. In my judgment, we cannot.

A conclusion at the Eno Center for Transportation after 2 years of work with stakeholders from around the system was if we want to retain America's leadership with the most advanced technology, moving from ground-based radar to Next Generation satellite guidance, which will be safer, faster, and more efficient, if we want to retain that, we are going to have to restructure the air traffic control function.

Let me mention just a couple of facts. Number one, there is no question we have an impressive safety record in aviation in this country, particularly commercial aviation, even though there is still more to do.

I know the families of the Colgan crash victims are in this room. I hope all of you get to know them, because over the years, they have played a very important role in continuing those safety improvement issues with the FAA.

Number two, the air traffic controllers do a terrific job every day, steering 30,000 flights and two million people as they fly across this country.

Number three, the people of the FAA work hard on these issues, including air traffic control and NextGen, but they necessarily work in the thick glue of bureaucracy, and frankly, that is hard to do with these kinds of challenges.

Here is the key point. The key point is in order to create a new modern air traffic control system, you have to have stable funding. That is nearly impossible for the FAA at this point. In a time of congressional spending restraint, they cannot count on stable funding. In fact, they cannot even count on level funding.

Take a look at the budget that just passed, in the facilities and equipment account. It is going to be \$355 million below that which

was requested, and the lowest in 15 years. That is the F&E account at the FAA in the current budget.

The fact is as much as we wish it would, the budget picture is not going to change. We are going to see more and more spending restraint. We are going to see the impact of sequestration, the impact of more layoffs, the on again/off again stop/start funding from continuing resolutions. That is what the FAA is confronted with.

No one would or could build a major new technology project with those kinds of challenges.

Here is the headline from last week in the *Washington Post*. I know it causes heartache in the agency: "FAA isn't delivering what was promised in a \$40 billion project." It refers to the modernization of the ATC system. That is why change is needed.

In our work at the Eno Center for Transportation, the consensus of the stakeholders was that we need to restructure to a government corporation or a non-profit organization that has bonding capability, stable funding, and the ability to plan and to control and finance the march to modernization.

We have now reached the tipping point that requires, in my judgment, action by Congress. I am not the typical spokesperson that would normally come to this table and suggest that be the case. I am someone who normally would weigh in on the side of having the agency do it.

In this case, there is not going to be stable funding to move this country toward the leadership necessary in the NextGen opportunity for air traffic control.

I understand this is not easy. I understand it is a big lift, it has been discussed before, but it needs to be done now. A number of other countries have done this very successfully, and so can we.

Finally, Mr. Chairman, we know the history, December 17, 1903, Orville and Wilbur Wright made the first flight. We learned to fly, then we flew the bonfires for guidance at night, then we flew to lights pointing in the sky for guidance, and then we flew to ground-based radar, and for 50 to 60 years, we have not changed.

Now, we need to change. We need to do it quickly and effectively, and in my judgment, the only way that is going to happen is if we create some different structure, and I suggest a government corporation or non-profit organization to accomplish what all of us want to accomplish for this country.

One final point. I know the word "privatization" has been used. I did not use it. There are other structural approaches including, as I said, government corporations and non-profit organizations that I think will solve the problem for this country and certainly insist the government retain and be a stakeholder in a new organization.

Mr. Chairman, again, thank you for the invite. It is really a pleasure to be here and see all of you.

[The prepared statement of Senator Dorgan follows:]

PREPARED STATEMENT OF HON. BYRON DORGAN, SENIOR POLICY ADVISOR, ARENT FOX LLP AND FORMER U.S. SENATOR FROM NORTH DAKOTA

Introduction

The nation's aviation system is part of the lifeblood of our economy, yet the system is facing rising demand, limited airport capacity, and aging navigation tech-

nology. The Federal Aviation Administration (FAA) has developed the Next Generation Air Transportation System (NextGen) in an effort to modernize the Nation's air traffic control system. Once implemented, this system will continue to perpetuate safety standards and promote a more efficient, state-of-the-art satellite-based system. This system has the potential to safely facilitate economic growth, increase mobility, and provide the United States with the ability to keep pace with our international competitors.

Recognizing the challenge of air traffic control modernization, the Eno Center for Transportation brought together key stakeholders, former policymakers, and academics into the Eno NextGen Working Group. I have had the honor to co-chair this working group with Former U.S. Secretary of Transportation Jim Burnley. This group gathered to discuss how to best accelerate airspace modernization and to analyze the institutional barriers that have contributed to the issues surrounding NextGen's implementation. Our research detailed the history of air traffic control in the United States and the attempts that have been made to accelerate reformation. It also included an analysis of six different countries that have successfully reformed the way their air traffic control systems are governed and funded.

Based on the goal of reforming air traffic control provision in the United States to effectively and efficiently implement NextGen and its accompanying benefits, and the research that has been conducted for the working group, we have proposed a set of guiding principles for air traffic control reform. These principles are meant to be a starting point for crafting legislative reform.

The Need for Reform

As has been widely discussed in Congressional hearings,¹ by the Government Accountability Office (GAO),² and the Office of the Inspector General (OIG),³ the NextGen program has experienced unstable Federal funding, which has led to implementation issues and increasing costs. These challenges have not only made the program more expensive for U.S. taxpayers, but have also created costs for the economy and compromised U.S. competitiveness.

The FAA, like other Federal agencies, is subject to Federal procurement rules, which create additional challenges when it comes to managing large-scale projects such as NextGen. The inability of Federal agencies to issue bonds or other forms of long-term financing further exacerbates these challenges. Our study of the causes of these issues has highlighted the potential drawbacks of the existing governance and funding structures for delivering ATC services, suggesting that reform could substantially accelerate and improve NextGen deployment.

These issues are not new. The FAA has consistently been slow to implement modernization plans and update the numerous systems that comprise U.S. ATC. This has catalyzed calls for the internal reorganization of FAA multiple times and has prompted many proposals to reform ATC governance and funding. Discussions of reform have been ongoing since the early 1980s.⁴

In 1994, following vice-president Al Gore's National Partnership for Reinventing Government, a very detailed proposal to create a government corporation to provide ATC services in the United States was put forward by then Secretary of Transportation Federico Peña, the *Air Traffic Control Corporation Study*. The following year, Representative Norman Mineta (D-Calif.) introduced a bill, HR 1441—United States Air Traffic Service Corporation Act, on April 6, 1995, which aimed to "provide for the transfer of operating responsibility for air traffic services currently provided by the Federal Aviation Administration on behalf of the United States to a separate corporate entity." This proposed government corporation would have charged user fees to the airlines (in the form of weight and distances charges), would have had budget autonomy from Congress, would have had permission to issue bonds, and would have been subjected to distinct procurement procedures from the rest of the Federal Government. But, lacking support from the airlines, general aviation, and many members of Congress, this bill died in Committee. As it was in 1994, disagreement between stakeholders has been a constant theme in all efforts to reform ATC provision in this country.

¹ For example, the recent *Options for FAA Air Traffic Control Reform*, an Hearing to the Subcommittee on Aviation of the Transportation and Infrastructure Committee of the U.S. House of Representatives on March 24, 2015.

² For example, *Air Traffic Control System: Selected Stakeholders' Perspectives on Operations, Modernization, and Structure* (GAO-14-770), released on September 12, 2014.

³ For example, *Status of FAA's Efforts to Operate and Modernize the National Airspace System*, released on November 18, 2014.

⁴ For example, President Reagan's 1987 *President's Commission on Privatization* looked at the issue of air traffic control governance.

Two years after introducing the bill to create a government corporation to provide ATC services in the U.S., Norman Mineta led a commission to study the issue. The conclusion of the “Mineta Commission” was that the FAA had “too many cooks” (including Congress, OMB, GAO, etc.) playing a role in ATC. The commission proposed a performance-based organization capable of charging user fees and issuing bonds.⁵ As a direct result of the Mineta’s commission, the Air Traffic Organization (ATO) was created as an arm of FAA in 2000. This new ATO took a step towards reforming governance, yet it ignored the Commission’s directive to reform ATC’s funding structure.

The creation of the ATO did not solve most of the issues that have been identified, including the need for stable funding. The recent draft bill for USDOT funding for FY2016 is likely to increase challenges for NextGen deployment. While FAA’s budget was slightly increased, the Facilities & Equipment (F&E) portion of the FAA budget –FAA’s capital account, which funds both maintenance of existing infrastructure and modernization—was decreased by \$100 million, reaching a 15-year low of \$2.5 billion.⁶ With a significant amount of back maintenance needs on FAA’s legacy infrastructure, NextGen deployment will once again suffer if funding is cut. Within the current budgetary environment, it is hard to envision a scenario where these funding levels will have the potential for increase. Recently the FAA completed the deployment of the new En Route Automation Modernization (ERAM), a critical system that future NextGen developments will use. While this is a crucial step in the implementation of NextGen technology, it experienced cost overruns of \$370 million. Of that \$370 million, FAA Administrator Michael Huerta has noted that \$40 million can be attributed to the budget sequester.⁷ With more potential sequesters looming in the horizon, passengers, carriers, and our national economy cannot afford to wait.

International Experiences

While the United States’ ATC system is operated by the Federal Government and financed through taxation, most other developed countries have departed from a system provided directly from the national government. In our research, we analyzed six peer countries. Three of the countries (Australia, Germany, and New Zealand) have created government corporations to provide ATC services. The other three (Canada, France, and the UK) all have unique structures: an independent non-profit user co-operative in Canada, a reformed government agency in France, and a public-private partnership in the United Kingdom. All six countries avoid relying on taxation to finance their operations and are instead funded by weight and distance fees charged to users of the airspace.

These nations also have separated their ATC operation from safety regulation, which remains in governmental agencies. This separation eliminates an inherent conflict of interest that exists today with the FAA doing both jobs. The International Civil Aviation Organization (ICAO), the UN agency responsible for aviation safety, since the early 2000s has recommended that member states proceed with the separation of ATC provision and regulation.⁸ In addition, the European Union has also mandated separation for all its 27 members.⁹

Not only is separation recommended by ICAO, but this rationale has also been used before in the United States with the Atomic Energy Commission (AEC). Until 1975, AEC performed research and development (R&D) for the nuclear industry, and also regulated the safety of the same industry. In order to eliminate this potential conflict of interest, in 1975 these functions were split into two separate entities: the Nuclear Regulatory Commission for safety regulation and the Energy Research and Development Administration (merged into the Department of Energy in 1977) for R&D.

In recent discussions here in the United States, there have been concerns that non-governmental ATC provision could lead to increased costs to the airspace users, poor service, or unsafe operations. The experience of our peer countries demonstrates that commercialized providers have the ability to keep costs in check, up-

⁵ National Civil Aviation Review Commission, *Avoiding Aviation Gridlock: A Consensus for Change*, released on September 10, 1997.

⁶ House Appropriations Committee, *Fiscal Year 2016 Transportation, Housing and Urban Development Bill*, released on April 28, 2015.

⁷ Air Traffic Management (April 30, 2015). *ERAM achieves its ultimate milestone*. Available at: <http://www.airtrafficmanagement.net/2015/04/eram-achieves-its-ultimate-milestone/>

⁸ International Civil Aviation Organization (2006). *Document 9734—Safety Oversight Manual, Part A*, 2nd edition.

⁹ European Parliament (2015). *Fact Sheets on the European Union—Air Transport: Single European Sky*. Available at: http://www.europarl.europa.eu/aboutparliament/en/displayFtu.html?ftuId=FTU_5.6.9.html

grade their systems without public funds, and improve safety.¹⁰ Some key factors that are essential to the success of these systems include reliable, independent sources of revenue; independent, but accountable, management; and direct stakeholder involvement.

Principles for Air Traffic Control Reform

The only way to solve the challenges associated with NextGen deployment is through transformational governance and funding reform at the FAA. Based on our research, the members of the Eno NextGen Working Group have agreed to a set of 10 Principles for Air Traffic Control, which should be used as a starting point for crucial FAA reauthorization discussions. The 10 principles are:

1. Promote growth and accommodate diversity in the national airspace system
2. Ensure a coherent, stable, and predictable funding structure for air traffic control
3. Establish a self-sustaining funding mechanism for air traffic control
4. Enable an efficient procurement system for air traffic control modernization
5. Enable bonding authority
6. Include aviation stakeholders in the governance of the air traffic control provider
7. Enhance and improve the Federal Aviation Administration's role as the safety regulator
8. Improve the certification processes at the Federal Aviation Administration
9. Facilitate robust Research & Development for air traffic control
10. Create and carefully implement a plan to ensure a seamless transition to a new system

A complete description of each principle is included for the record. Also included in the record is a list of institutional and individual members of the Eno NextGen Working Group.

The principles expressing the need for predictable and stable funding, and the need for a self-sustaining funding mechanism, are inspired by the need to ensure that the ATC provider is insulated from political whims. This is extremely important if we wish to avoid what happened in the 2013 government shutdown and the budget sequester. Air traffic control is a 24/7 technological service, the backbone of the aviation industry, and one of the most important industries in this country. It is imprudent to let such a service be subject to political and budgetary cycles. The current funding streams must be replaced by direct payments to the ATC provider, allowing users to pay for the services they receive.

Furthermore, bonding authority is essential for more efficient investments in modernization efforts like NextGen. Trying to deploy multi-billion, multi-decade investments in technology with a budget that is appropriated year-by-year, like the FAA is subject to, is next to impossible. With bonding, backed by the ATC provider's own stream revenues, better capital management will be possible.

As for governance, principle number six highlights the need for more stakeholder involvement in the system's governance. While the Management Advisory Council (MAC) has an important role in aiding the FAA, this should be taken a step further with stakeholders having a direct role in the governance of the system. This involvement would promote a balanced system that is more attentive to the stakeholders' needs. This can provide a more effective way of prioritizing investments, but it would not mean that the Federal Government would be taken out of the picture. As the guarantor of the public interest, the Federal Government must maintain a role in governance.

These principles are just an initial step to the creation of a better, more efficient ATC system. Congress and aviation stakeholders should take the opportunity of the momentum that has been created and come up with solutions that will allow U.S. ATC to reclaim its title as the gold standard of the world.

Conclusion

Congress has an opportunity during the upcoming FAA reauthorization to do something bold and transformational that will allow ATC in our country to enter into the 21st century. The time for small scale attempts to reform the FAA is over.

¹⁰ Government Accountability Office (2005). *Air Traffic Control: Characteristics and Performance of Selected International Air Navigation Service Providers and Lessons Learned from their Commercialization* (GAO-05-769); Oster, C. V. and Strong, J. S. (2007). *Managing the Skies: Public Policy, Organization and Financing of Air Traffic Management*. Ashgate.

We need to do something big and transformational. Following the numerous discussions that we had during the work of the Eno NextGen Working Group, I have come to realize that full-throttle reform is the only way to solve the issues that have been identified throughout the decades. The logical conclusion of these discussions and the principles that we have put forward is that ATC provision should be spun off the FAA into a new independent entity. This new independent entity, which should be a government corporation or a non-profit organization that is fully outside the Federal Government, needs to have budget independence, needs to be funded by its users, and needs a governance structure that is responsive to the industry stakeholders.

There has been some discussion about removing the entire FAA from DOT or even the government; this is an unworkable idea. Even without air traffic control, the FAA will have a very important role and essential governmental role as the safety regulator of our Nation's aviation system—this is a critical public role. It is inconceivable that such a role could be handed over to an entity that is outside the direct control of the government, even if it is a government corporation. Moreover, this would not accomplish the critical separation of the operator from the safety regulator, in line with ICAO standards and the rest of the developed world.

We should also use this opportunity to remove the inherent conflict of interest that exists in having the FAA both providing ATC and regulating ATC safety. No other agency within USDOT both operates and regulates a transportation service. For example, the Federal Railroad Administration regulates railways and issues grants, but does not manage train dispatching. The National Highway Traffic Safety Administration regulates the safety of motor vehicles, but does not set speed limits or control traffic lights. Separation allows each organization to focus on their core mission and avoid potential internal conflicts of interest. A new ATC organization could focus on serving customers without having broader regulatory responsibilities, and the FAA could focus on regulating ATC safety and the rest of the aviation industry, ensuring that the United States airspace continues to be the safest in the world. ICAO recommendations and our own experience in this country are very clear that separation of safety regulation from safety regulation is a worthy goal.

Some have raised the question of “what problem” we are trying to solve. While it is true that the FAA has been making progress with NextGen, this progress is still far too slow compared to what is needed. The fact is that with the current budget and regulatory environment, only so much can be done. Only governance and funding reform, and the creation of a new independent entity to provide air traffic control services, will allow the NextGen effort to be significantly accelerated. After 30 years of attempted reforms, there is now an opportunity to move forward and reform the U.S. ATC provision into a system more ready to deal with the challenges that the increase of air traffic in the next decades will bring.

APPENDIX

ENO CENTER FOR TRANSPORTATION NEXTGEN WORKING GROUP—STATEMENT OF PRINCIPLES FOR AIR TRAFFIC CONTROL REFORM

Principles for Air Traffic Control Reform

1. Promote growth and accommodate diversity in the national airspace system

Access to the national airspace system is crucial for the economy of the Nation as well as of many small communities around the country. General and business aviation represent an important share of the traffic in our airspace and make a vital contribution to the national economy. Both domestic and international air carriers depend on an efficient system, and government is also a critical user. Effective representation of all airspace users in the governance structure of the air traffic control provider is essential to ensure that stakeholders' interests are safeguarded. Congress and the Federal Government should also continue to play a substantial role in promoting the growth of the entire aviation system to ensure that adequate capacity exists, delays are reduced, and access is maximized.

2. Ensure a coherent, stable, and predictable funding structure for air traffic control

The current funding mechanism for air traffic control provided by annual appropriations is not an effective mechanism for a highly technological and capital intensive service business. Air traffic control should be removed from the Federal budget process and should not be dependent on annual appropriations. This would insulate air traffic control from events like the budget sequester and Federal Government shutdown of 2013.

3. Establish a self-sustaining funding mechanism for air traffic control

The current funding system, which is based on a mix of taxes and general revenues, should be replaced, to the extent possible, with direct payments to the air traffic control provider. This funding method would create a self-sustaining system and would be in line with international principles. It would also improve the link between the services provided and the revenues coming in, providing an incentive for efficiency. Additionally, allowing all sectors of aviation to be a part of its governance will allow them to be more engaged in the system's modernization.

4. Enable an efficient procurement system for air traffic control modernization

Despite 1996 legislation to exempt the FAA from many Federal procurement rules, today's FAA procurement system substantially mirrors that of the rest of the Federal Government and remains inefficient. These procurement rules and procedures are not effectively designed for the highly technological ATC system, and hinder the system's modernization. Air traffic control modernization must include improvements to procurement processes.

5. Enable bonding authority

The air traffic control provider will need the ability to issue debt, including bonding authority to aid in long term financing of capital expenditures. The ability to issue bonds, backed by the user-based revenues streams, will ensure better capital planning and will help modernization efforts like NextGen to be more effectively managed and implemented.

6. Include aviation stakeholders in the governance of the air traffic control provider

Stakeholders must play a strong role in governance of the air traffic control provider in order for it to be responsive to the needs of its users and other aviation stakeholders. This involvement would promote a system that is more attentive to the stakeholders' needs. This could be a more effective way of prioritizing investments. The Federal Government will have a role in the governance structure as a guarantor of the public interest.

7. Enhance and improve the Federal Aviation Administration's role as the safety regulator

The United States has the safest airspace system in the world. The FAA should retain its role as the safety regulator of the airspace system after reform to ensure that it will continue to be the safest in the world. This will bring the FAA in line with the rest of the administrations within the U.S. Department of Transportation, which regulate safety but do not operate the services. In addition, existing rules and procedures should be reviewed, streamlined, and improved, including expediting safety regulatory procedures. Separation of provision of air traffic control services from safety regulation will also follow international recommendations, allowing each organization (the FAA and the air traffic control provider) to focus on their core responsibilities and avoid potential internal conflicts of interest.

8. Improve the certification processes at the Federal Aviation Administration

A critical component of FAA's continuing role as government safety regulator is the certification and approval processes of aviation products, flight standards, and people. Effective and timely certification processes are essential for the industry and the Nation's economy, and delays in the approval processes can be extremely costly and disruptive to the successful implementation of NextGen, third class medical reform, updating the existing general aviation fleet with modern equipment that will improve flight safety, among other concerns. Moreover, the current processes are unable to keep pace with the rapid advancements in technology and must be reformed, quickly, in order for the national aviation system to continue to be the best and safest in the world. The FAA culture, as well as the regulatory and certification processes, especially in the area of general aviation, need to evolve in order to better keep pace with changes in technology.

9. Facilitate robust Research & Development for air traffic control

The FAA, with the support of NASA, has sponsored laudable Research & Development (R&D) to improve the safety and efficiency of our skies. Like other areas within the agency, however, this work is constrained by Federal budget and procurement procedures that delay projects and increase their costs. R&D should be freed of such constraints.

10. Create and carefully implement a plan to ensure a seamless transition to a new system

The transition to any new approach for financing and governance must be thoughtfully and meticulously implemented. Every effort must be made to avoid any adverse effects on the day-to-day functioning of the air traffic system during, or subsequent to, the transition. An important component is to provide as stable and secure a working environment for the employees of the agency as possible, including the continuity of the collective bargaining relationships and processes for employees who currently are represented. The transition in the financing should be done in a way that avoids any significant changes in the financial burdens of the users of the system. Sufficient time must be given to all stakeholders to prepare for the new operating environment.

Disclaimer: While we succeeded in reaching a broad consensus on the need for air traffic control reform, as is often the case with an exercise like this, these principles, in whole or in part, may not necessarily represent the views of all who participated.

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The CHAIRMAN. Thank you, Senator Dorgan. Nice to have you back. We will now turn to Mr. Smisek.

STATEMENT OF JEFFERY A. SMISEK, CHAIRMAN, PRESIDENT AND CEO, UNITED AIRLINES

Mr. SMISEK. Thank you, Chairman Thune, Ranking Member Nelson, and members of the Committee for the opportunity to be here.

The reform of our Nation's air traffic control system is a critical issue for the users of the national airspace, for our passengers and

employees, and for the many stakeholders across the country who benefit from a healthy commercial aviation system.

A4A, Airlines for America, for which I serve as Chairman, has dedicated a tremendous amount of resources, time, and attention to developing a rigorous, fact-based study of air traffic control reform, including a global survey of the best practices for operation of air navigation service providers.

All of our work points to one conclusion: the American Air Traffic Control system needs complete transformation in order to modernize to meet the demands of the future, and the time for that transformation is now. We cannot continue with the status quo.

Today, all users of the ATC system are beholden to a World War II era radar-based system that, while world class in safety, is inefficient and delay-ridden. For decades, policymakers and stakeholders have almost unanimously recognized the need for modernization.

A long string of reports from Presidentially-appointed aviation commissions, the Department of Transportation Inspector General, the Government Accountability Office, and independent private sector experts have found the FAA's progress delivering NextGen capabilities has not met expectations, calling into serious question the agency's ability to deliver on its mission under the existing funding and governance structure.

The problem is not the leadership or the workforce of the FAA. It is the funding and governance structure that we must fix.

There are many countries around the world that have already successfully transformed their own air traffic control systems. A4A has done extensive benchmarking of the success of these models.

Our analysis suggests the following six basic principles for success of a transformed air navigation service provider: one, separation of the ATC operations and the ATC safety regulation functions. Two, a non-profit corporation operating the ATC system with independent multi-stakeholder Board governance, free from political influence over decisionmaking.

Three, a professional, effective management team of the ATC provider incentivized to pursue efficiencies without the numerous constraints imposed on government agencies. Four, a fair, self-funding user fee model based on the cost of ATC services, allowing for access to capital markets, and a steady predictable, reliable stream of funding that is not subject to governmental budgetary constraints.

Five, the ability to manage assets and capital investments in a way that allows far greater speed to market of technological modernization, and six, transparency in user fees, so that users and their customers alike know what they are paying, allowing users full ability to recover costs.

Under a transformed ATC system, the total of new user fees for airlines to pay for the new air traffic entity plus any new fee on airlines or their passengers to help fund the remaining functions of the FAA should not exceed the total tax burden on the airlines and their passengers today.

With independent governance, operation and funding of a transformed ATC system, the FAA could then turn its full attention to what it does best, safety, regulation, and oversight. A transformed

ATC system could continue to maintain safety as the utmost priority while creating efficiencies, delay reductions and environmental benefits from reduced fuel burn.

The inefficiencies, delays and costs of the current ATC system will only grow over time, so there is no better time to transform the ATC system than now.

We are capable of rising to this challenge, as have many other countries before us, if we conduct this transformation methodically and thoughtfully while giving proper consideration to transition issues and risk mitigation.

The result of this transformation would be a modernized U.S. air navigation service provider that will better deliver the benefits that the users of the system, our employees, our passengers, and this great nation expect and deserve.

Thank you.

[The prepared statement of Mr. Smisek follows:]

PREPARED STATEMENT OF JEFFERY A. SMISEK, CHAIRMAN, PRESIDENT AND CEO,
UNITED AIRLINES

Chairman Thune and Ranking Member Nelson, I appreciate the opportunity to testify before the Committee today. I'm Jeff Smisek, and I am Chairman, President and CEO of United Airlines. I am testifying today as Chairman of the Board for our trade association, Airlines for America (A4A).¹

As the Committee knows, the airline industry believes that fundamental reform presents significant opportunities for improving our air traffic system, providing real benefits to the users, air travelers, employees, communities and businesses across America. We did not come to this conclusion easily and we do not take the implications and risks of fundamental reform lightly. We have dedicated a tremendous amount of resources, time and attention to this topic, including a global survey of best practices for operation of national air navigation service providers. Our work leads us to the conclusion that *the American air traffic control system needs complete transformation in order to modernize to meet the demands of the future*, and the time for that transformation is now.

Safety First

At the outset, I would like to make it clear that this discussion takes place under the absolute premise that safety comes first. Under any and all scenarios, first and foremost, the FAA must remain and retain the role as a world-class safety regulator. Safety of operations is the bedrock principle by which each and every person in our industry lives, and transforming our ATC system will not change that in any manner. In fact, ATC transformation would reinforce safety as the primary mission and responsibility of the FAA, making it more of a traditional regulator versus the current system where FAA is both the operator and regulator of the air traffic services.

Why is ATC reform important to passengers and consumers?

For some context, A4A member carriers and their affiliates transport more than 90 percent of all U.S. airline passenger and cargo traffic. In 2014, the U.S. airline industry averaged more than 2 million passengers and nearly 50,000 tons of cargo carried on 27,000 flights per day, providing economic benefits to communities throughout the United States. Today, all users of ATC are beholden to a World War II-era, radar-based system that, while safe, is inefficient and delay-ridden. As an example, when I joined the airline industry 20 years ago, a flight between DCA and EWR was scheduled for under one hour. Today, we must schedule that same flight for almost an hour and a half to account for ATC delays—more than twice the actual flying time.

What is the problem we are trying to solve?

For decades, policymakers and stakeholders have almost unanimously recognized the need to modernize our antiquated ATC system. There are many countries around the world that have already successfully transformed their own air traffic

¹ A4A does not represent Delta Air Lines in this testimony.

control systems. It's time for the U.S. to do the same. To their credit, FAA leadership has been attempting to modernize the ATC system for more than a decade, and we believe that Administrator Huerta, Deputy Administrator Whitaker, Assistant Administrator Bolton, and the teams they lead are working as hard and effectively as possible within their budget and organizational constraints to provide the safest air traffic system in the world. Indeed, the leadership and action they and the dedicated workforce of the FAA provided following the act of sabotage at the Aurora facility last September are worthy of praise. However, a string of reports from presidentially appointed aviation commissions, the Department of Transportation Inspector General, the Government Accountability Office, and independent private sector experts have found that the FAA's progress delivering NextGen capabilities has not met expectations, calling into serious question the agency's ability to deliver on its mission under the existing funding and governance structure. This was most recently emphasized in a National Research Council report that indicated FAA should 'reset expectations' for NextGen. The problem is not the leadership or the workforce; it's the funding and governance structure that we must fix.

Too often, politics and budget constraints end up being the major influencers of how the system operates, which means all the users of the system are beholden to decisions not necessarily in the best interest of the system users. We believe an air traffic system that is accountable to stakeholders would operate more efficiently and effectively to the benefit of passengers and all users of the system.

What is the solution?

A4A has undertaken considerable research on various models of air traffic organizations around the world. In particular, we have done a thorough analysis to benchmark and assess the governance, financial and operational performance of the U.S., Canadian and European ATC models in order to make an informed comparison between our current system and those systems engaging in best practices outside the United States. Our evaluation reviewed the safety, predictability, efficiency, cost, productivity, customer service and NextGen implementation performance of each of the organizations.

Our benchmarking and rigorous fact-based assessment of the governance, financial and operational performance of the U.S., Canadian and European ATC models suggests some basic principles for the success of a transformed air navigation service provider. There must be:

- (1) Separation of the ATC operations and ATC safety regulation functions;
- (2) A non-profit corporation operating the ATC system, with independent, multi-stakeholder board governance free from political influence over decision-making;
- (3) A professional, effective management team of the ATC provider, incentivized to pursue efficiencies without the constraints imposed on government agencies that hamper their ability to manage more nimbly and effectively;
- (4) A fair self-funding user fee model based on the cost of ATC services, free from the start and stop budget constraints that have resulted in sequester and furloughs of air traffic controllers, allowing for access to capital markets and a steady, predictable, reliable stream of funding that isn't subject to governmental budgetary constraints;
- (5) The ability to manage assets and capital investments in a way that allows far greater speed to market of technological modernization; and,
- (6) Transparency in user fees so that users and their customers alike know what they are paying, allowing users full ability to recover costs.

Commercial airlines, who are the primary and disproportionate funders of today's system, believe that the total of new user fees for airlines to fund the new air traffic entity, plus any new fee on airlines or their passengers to help fund the remaining functions of the FAA, should not exceed the total tax burden on the airlines and their passengers today.

These success factors lead to an effective operation because an independent ATC entity can operate with stable and predictable funding and governance certainty, subject to strong safety regulation and oversight by the FAA, which could then solely focus on its core function rather than playing the duel and conflicting roles of both operator and regulator. An organization that is accountable to stakeholders and users of the system will drive effective decision-making and efficient operations in order to capture the full benefits of the ATC system.

Further, an independent ATC system will be far more likely to adapt quickly to keep pace with the constant evolution that is inherent in our industry. In aviation, change happens at 500 miles per hour, and many of the challenges, risks and oppor-

tunities we face tomorrow will be different than those we face today. We need an ATC system that is nimble, flexible, forward-looking and technologically advanced, with a freedom and ability to change that the current system simply does not have.

Our work to date shows that a non-profit governance structure would deliver the greatest benefits for a transformed ATC system. This type of entity would continue to maintain safety as the utmost priority, while also creating significant efficiencies and improvements, delivering greater value for all users of the system, our employees, our passengers and the communities that depend on the services we provide.

How do we transition?

All stakeholders recognize transitioning from a government organization to an independent non-profit organization is a serious and complex undertaking that needs to be done in a methodical and thoughtful manner.

The inefficiencies, delays and costs of the current ATC system will only grow over time, so there is no better time to transform the ATC than now. As part of our on-going research, we are working on a detailed transition plan and policy principles for many of the unanswered questions that arise when you dig deeply into these issues.

To those who suggest change carries too much risk, we would reply that the risk of doing nothing is higher. While our system is safe now, we are moving in the wrong direction. We are at a crossroads, with an opportunity to take advantage of the leadership of Congress and the stakeholder community to come together and transform our Nation's ATC system in a way that will ensure that our country retains our global leadership. While there are indeed risks in making major changes, we believe the risks and transition issues can be mitigated. We are capable of rising to this challenge, as have many other countries before us. It would be a mistake to accept the status quo, just because progress will take effort.

It is easy to get buried in the complexities and tangential questions that arise with the ATC reform debate. However, if you step back and look at the concept, it is really quite simple. We believe the air traffic service provider portion of the FAA should become a self-funding organization, independent of governmental interference, turned over to a non-profit entity governed and held accountable by a board of stakeholders. We believe that ATC services would operate more effectively and efficiently outside the control of government and the funding unpredictability and politicized decisions that come with it. With a predictable funding structure and direct operational transparency and accountability to users of the system, the modernized

U.S. air navigation service provider would better benefit the users of the system, the employees of the system and the passengers they serve.

We look forward to working together with the Committee. Thank you.

The CHAIRMAN. Thank you, Mr. Smisek. Mr. Rinaldi?

STATEMENT OF PAUL M. RINALDI, PRESIDENT, NATIONAL AIR TRAFFIC CONTROLLERS ASSOCIATION, AFL-CIO (NATCA)

Mr. RINALDI. Mr. Chairman and Senators of the Committee, thank you for the opportunity to testify in front of you today at this important hearing to discuss the future of our aviation system.

We all have a stake in the national airspace system, an economic engine for this country that contributes \$1.5 trillion in gross domestic product and provides over 12 million American jobs.

We invented aviation in this country. It is an American tradition. Over the last 100 years, we have dreamed, innovated, implemented the unbelievable in aviation. Currently, we run the largest, safest, most efficient, most complex, most diverse system in the world. Our system is incomparable, unequalled, and unrivaled by any other country.

For example, the next largest airspace system to the United States is Canada. They run roughly 12 million operations a year. On average, the United States' airspace system runs over 132 million operations a year. The United States' airspace system and the

FAA is considered the gold standard in the world aviation community.

Yet, the reality is in order to keep that honor, a change is needed. Currently, we face many challenges in responding to the given problems of an unstable, unpredictable funding stream, including but not limited to the inability to finance long term projects such as NextGen, the inability to grow the national airspace system for new users, the UAV community and commercial space, the inability to modernize our aging infrastructure. Currently, our 20 en route centers throughout the country are over 50 years old with no plan of replacing them.

Currently, we are struggling to maintain our proper resources and staffing our busiest air traffic control facilities. Our certified air traffic controllers are at an all-time low.

The upcoming FAA reauthorization bill must address the lack of a predictable, stable funding stream for our continuous hyper critical safety aviation operation.

We understand that addressing the stop and go funding problems will lead to an examination of a potential structure change for the FAA. We believe it is time for a structure change. The current system is not dynamic enough to address the needs of air traffic control operations in the future.

Any such change or reform must be carefully examined to prevent the unintended consequences of negatively affecting the safety and efficiency of our national airspace system. Every stakeholder in the national airspace system should work together to make sure the United States continues to be the global leader in aviation.

Any reform must address the safety and efficiency of the national airspace system. It must be mission driven. It must have a process that provides a stable, predictable funding system to adequately support air traffic control services, staffing, hiring, training, long-term projects such as NextGen. Any change must allow for continued growth in our aviation system. Any change must be dynamic.

The aviation system must continue to provide all services for all segments of the aviation community. Any change we make must be precision like so that we do not interrupt the day to day operation of the national airspace system.

Our national airspace system is an American treasure. Aviation is uniquely an American tradition. We cannot continue to short-change it. We are still currently recovering from the sequestration cuts of 2013. Another round of cuts set to take place this year will shrink our country's aviation footprint forever.

We need to make appropriate changes to secure a stable funding stream for aviation. We need to establish a proper governance structure for our national airspace system, a structure that is not laden with bureaucratic lines of business. A structure that is not burdened or marred with bureaucratic process.

We need a dynamic structure that is nimble. We need a structure that will allow us to grow aviation in this country and not shrink it. We need a structure that will allow us to modernize our facilities, equipment, procedures, technology, in a realistic timeframe.

We need a structure that will give us the competitive edge to ensure our future leadership in the global aviation community.

Mr. Chairman, I thank you for the opportunity to testify in front of you today. I look forward to answering any of your questions or any questions the Senators may have. Thank you.

[The prepared statement of Mr. Rinaldi follows:]

PREPARED STATEMENT OF PAUL M. RINALDI, PRESIDENT, NATIONAL AIR TRAFFIC CONTROLLERS ASSOCIATION, AFL-CIO (NATCA)

Introduction

Chairman Thune, Senator Nelson, members of the Committee, thank you for inviting me to testify before you today on the reauthorization of the Federal Aviation Administration (FAA).

The National Air Traffic Controllers Association (NATCA) is the exclusive representative of nearly 20,000 aviation safety professionals, including nearly 14,000 air traffic controllers employed by the FAA, the Department of Defense (DOD), and the private sector in the FAA's Federal Contract Tower program. In addition, NATCA represents FAA's Alaska flight service station air traffic control specialists, engineers and architects, traffic management coordinators, Notice to Airmen (NOTAM) service, flight procedures specialists, aircraft certification professionals, agency operational support staff, aviation technical systems specialists, automation specialists, drug abatement employees, airports division, regional counsels, and personnel from FAA's logistics, budget, finance, acquisitions, and information technology divisions.

Air traffic controllers and other aviation safety professionals are dedicated to ensuring that our National Airspace System (NAS) is the safest and most efficient in the world. Every day, air traffic controllers handle over two million passengers traveling within the busiest and most complex airspace in the world, with roughly 5,000 planes in the sky at any given moment. Domestic airlines served an estimated 756.3 million passengers in 2014. In order to maintain that safety and efficiency, aviation safety professionals work to improve safety procedures, modernize the NAS, and implement new technology. We have professional controllers involved in nearly every FAA program related to modernization and Next Generation Air Transportation System (NextGen).

The NAS is an integral part of our national infrastructure and an essential driver of our economy. Each and every day, millions of individuals and businesses in the U.S. economy rely on the services provided by our complex web of aviation routes. Aviation drives nearly 12 million jobs and contributes \$1.5 trillion to the Nation's economy.

The FAA Needs a Stable, Predictable Funding Stream

For years the FAA has been faced with an unstable, unpredictable funding stream, and each interruption has negatively affected all aspects of the FAA. The FAA has had to spread its resources thinly between fully staffing its 24/7 operation, modernizing the airspace, and performing the daily maintenance required to sustain an aging infrastructure. When sequestration cuts were implemented, the situation became even more dire. The FAA was forced to furlough its employees, including air traffic controllers, place preventative maintenance on hold, and consider closing Federal and contract towers, curtailing air traffic services in smaller markets. The cuts also prevented the FAA from hiring new trainees to replace the certified controllers who retired, adding stress to an already understaffed workforce. Sequestration cuts did not affect the FAA's budget for Fiscal Years (FY) 2014 and 2015, but the cuts will return in FY 2016.

The upcoming FAA Reauthorization bill must address the lack of a predictable, stable funding stream to support a safety-focused 24/7 operational system. We understand that addressing these stop-and-go funding problems may lead to an examination of potential structural changes for the FAA, but we implore this committee not to merely examine the structure of the FAA. Any change that fails to guarantee a stable, predictable funding stream could create new unintended consequences, without solving the true dilemma.

As members of the aviation community, we must be precise in identifying current problems, and we must also work together to find solutions that create a predictable funding stream while maintaining the safety and efficiency of the system.

NATCA looks forward to working with Congress and other stakeholders to determine a solution that provides a stable and predictable funding stream while also protecting the air traffic control system and its future growth. Details matter in this process. No system is like the United States' National Airspace System, and no model used elsewhere in the world is perfect—certainly not perfect for a system as

large, complicated, and diverse as ours. Any new model must be mission-driven and must ensure robust, continued aviation sector growth throughout every segment of our industry and country. We must protect and strengthen the great national asset that is our air traffic control system.

Existing Problems at the FAA

The lack of a stable, predictable funding stream has led to serious problems at the FAA. We have all seen these issues, which have been especially serious over the last five years. We believe that problems for FAA are not caused by the failure of Congressional appropriators to provide sufficient funding to the system, rather they result from a broken process resulting in short-term funding bills, government shutdowns, partial FAA shutdowns, threatened government-wide and FAA specific shutdowns, sequestration, and 23 short-term authorization extensions to name a few. The NAS is held hostage by this unpredictable and unstable funding stream.

FAA operations and redundancy: The lack of a stable, predictable funding stream means that the FAA has had to prioritize the basic maintenance and repairs that ensure current operations over maintaining safety redundancies and making improvements to the system. This is a slippery slope because, when stressed, the existing system cannot maintain its safety and efficiency without such redundancies and continual improvements. The 2013 government shutdown forced the FAA to halt important maintenance, and forced a fix-on-fail maintenance policy. Additionally, FAA working groups were unable to meet or travel during the shutdown, delaying implementation of new airspace and safety procedures.

In the spring of 2013, the FAA made sequester cuts by delaying non-critical repairs and the requisition of new replacement parts. The FAA designated a list of 56 airports and critical facilities. Any facility not on the list was subjected to a very strict requisition standard: a requisition would be granted only in extremely critical situations with a high potential to negatively affect safety or disrupt the expeditious flow of air traffic, have a high public visibility, or have the potential for creating a real and present danger to the flying public. Even a grounded aircraft or an off-line facility without communications ability were not necessarily considered sufficient justifications.

Staffing: The system has lost close to 1,000 air traffic controllers (6.2 percent of the workforce) between May 2013 and today, down to 13,902 from 14,793. This loss exacerbates an already tenuous staffing situation, in which 3,025 of 13,902 controllers are eligible to retire today. Of the 13,902 total controllers, 1,680 are still in training, meaning they have varying levels of independence controlling traffic. If the current situation continues unchecked, the NAS will see an increased number of inadequately staffed and even critically staffed facilities. Such facilities require controllers to work overtime to adequately cover all needed positions. In some cases, those facilities do not have the staffing, even with overtime, to open all of the necessary positions. Any further staffing reductions will likely have a detrimental and immediate effect on capacity, meaning fewer planes in the sky and greater potential for delays.

For example, New York TRACON (N90) and Chicago TRACON (C90) present a unique problem. New hires who become FAA training academy graduates rarely, if ever, achieve full certification at these facilities, due to the complexity of their respective airspaces. As of May 1, 2015, N90 had 148 Certified Professional Controllers (CPCs), compared to 160 in 2010. Today, 53 are eligible to retire, meaning roughly 36 percent of N90s fully trained controllers could leave at any time. N90 has five airspace areas, and as of May 1, 2015, 18 of the 37 CPCs (or 48 percent) who provide radar approach control services for Newark Airport are eligible to retire. It would not be possible to safely maintain the same number of operations per day into and out of Newark Airport if all 18 were to retire before anyone is trained to replace them.

Due to the critical staffing levels, the controllers work six-day workweeks and are often held over for additional overtime. The workforce suffers from significant fatigue problems due to extended workdays and workweeks. The National Transportation Safety Board (NTSB) identified this as one of its highest priority safety concerns. Understaffing also hinders facilities throughout the country from deploying NextGen programs, procedures, and equipment.

Hiring and training: Sequestration forced the FAA to cut its Operations budget, resulting in furloughs for FAA employees. Those cuts also led the FAA to institute a hiring freeze between March 2013 and December 2013. The FAA training academy in Oklahoma City was closed for most of 2013 as a result of sequestration, so the FAA has not been able to keep up with the pace of attrition. Even if the FAA hired at its maximum rate in 2015 and 2016, it will still not make up for the attrition seen in 2013 through 2016, and will not adequately staff our facilities in the near

term without a higher priority placed on training, and improvements in the placement and transfer processes. There is an estimated 25 percent failure rate at the Academy, and additional trainees fail once they are assigned to their facilities. Moreover, the Academy graduates who are successful in becoming CPCs take two to four years to progress through the on-the-job-training requirements. The combined effects of these constraints result in a shortage of fully certified air traffic controllers and negatively affects the FAA's ability to train new hires, develop and implement modern technology, and efficiently control traffic.

Once new hires graduate from the FAA Academy, the FAA's flawed and inefficient employee placement and transfer process also presents challenges. Many facilities are in desperate need of qualified transfers, and many employees want to transfer to higher level facilities that need additional staffing. Historically, the FAA has placed air traffic control trainees from the Academy into higher level facilities, which typically have a higher failure rate than the nationwide average of 25 percent. This works against the FAA's efforts to efficiently hire, train and retain new controllers. Fully certified controllers should be encouraged to transfer to the most important and critically staffed facilities in the NAS. Their path to do so should be eased while new trainees backfill positions at lower activity facilities.

Modernization delays: Air traffic controllers and NATCA are working closely with the FAA to fully realize the benefits of NextGen modernization projects. We have made significant strides recently, including the complete implementation of En Route Automation Modernization (ERAM), which became fully operational at the final air route traffic control center at the end of March 2015. Terminal Automation Modernization and Replacement (TAMR) and Standard Terminal Automation Replacement System (STARS) equipment were successfully implemented at multiple facilities throughout the country in 2014 (21 facilities are scheduled for installations in 2015, and 90 facilities through 2018).

Last year, the FAA implemented 61 new procedures in the Houston area and 77 in North Texas as part of the growing Optimization of Airspace and Procedures in the Metroplex (OAPM) project. The System Wide Information Management (SWIM) Visualization Tool (SVT) is a new product that was installed last year at Southern California TRACON (SCT). It provides surface situational awareness to controllers, traffic management specialists, and frontline managers, and allows them access to airport surface data that was previously unavailable outside of a tower cab.

NextGen is already having beneficial effects on air travel in our nation, yet we cannot overlook the difficulties that interruptions in the funding stream have created for these modernization projects. Lack of a stable funding stream makes planning for multi-year projects almost impossible. As a result, we have seen significant delays and inefficiencies in modernization. For example, ERAM, which was scheduled to fully replace the old system in August 2014 at 20 FAA Air Route Traffic Control Centers nationwide, was pushed back to March 2015 due to the April 2013 furloughs. That delay cost more than \$42 million. Likewise, the sequester furloughs and government shutdown significantly slowed the progress of the OAPM project at nine test sites across the country. Final implementation at the Houston test site had been scheduled for December 2013. Implementation and its associated benefits were delayed until May 2014 due to the furloughs.

The FAA is making progress on NextGen, and has successfully reached significant milestones, but the funding stream needs to be addressed to prevent further time and financial overruns. We have made progress, but all of our successes will be delayed and more expensive as long as the funding stream remains unstable and unpredictable. As you know, stop-and-start funding impedes the FAA's ability to properly staff collaborative workgroups tasked with the design, testing, and implementation of new technologies and procedures. These recent successes are important, but we cannot forget that each of them faced numerous setbacks due to uncertain funding. The NAS is a 24/7 operation, and the aviation safety professionals at the FAA must continue to run that system while simultaneously working on research, development, testing, and the implementation of technology modernization.

Potential tower closures, reduced hours of operation, and loss of towers: Funding shortages threaten services to rural and small communities that benefit from the business that air service brings. When sequestration cuts were initially announced, the FAA was prepared to close towers and even released a list of over 230 towers under consideration for closure. Ultimately the FAA was able to avoid tower closures, but closures could once again become a necessity. General aviation, military exercises, and flight school services at these airports would be at risk, and we would see a reduction in services for airlines, commercial interests, and private pilots who rely on towers at smaller airports for air traffic services and for secondary services like pilot training.

Sequestration budget caps or cuts could potentially lead to another significant consequence. More than 100 of the Federal Contract Towers (FCT) throughout the country could be closed. This would affect general aviation and rural communities that depend on the services those towers provide. While funding for the FCT program is currently moving through the appropriations process, we are concerned that future sequestration cuts could ultimately shut down many of the towers. Employees at FAA facilities would see their workload increase dramatically because FAA facilities would have to take over the services that many of the FCTs currently provide. This would add stress just as those FAA facilities face reduced staffing due to sequestration cuts and the resultant furloughs. Contract towers also provide crucial support to our Nation's military and private enterprises. For example, one of only two Apache helicopter maintenance units in the country is located at Lone Star Executive Airport in Texas.

Physical infrastructure: The FAA cannot keep up with replacing its outdated infrastructure and technology at current budget levels. The average age of facilities in the NAS is 50 years, and FAA officials have testified that the agency already struggles with the maintenance of existing infrastructure. The FAA recognizes that it cannot expect all aging infrastructure to be replaced simultaneously, even though many facilities were originally built at the same time.

The 2013 government shutdown disrupted the maintenance of NAS infrastructure, at which point many projects were delayed due to the furlough of FAA employees, including engineers, architects, and aircraft certification and airport division employees. Safety-related equipment modifications to aircraft, as well as engineering and testing services were also threatened, negatively affecting maintenance to infrastructure as well as the FAA's modernization efforts. With 70 percent of the technical workforce furloughed, important projects were delayed at some of the Nation's busiest airports.

The air traffic control tower at Tampa International Airport (TPA) provides an enlightening example. At a recent hearing of the Transportation, Housing, and Urban Development (THUD) Subcommittee of the U.S. House of Representatives Committee on Appropriations, Rep. Jolly of Florida highlighted the current condition of NAS facilities across the country. The Congressman noted that TPA is about to "fall over the cliff" in terms of its expected lifespan. New, modern equipment is unable to fit into the aging tower, and its condition is declining rapidly. This creates obvious challenges for the FAA, as the agency must choose between the pressure to modernize and the immediate need to repair and maintain facilities such as TPA.

Broad Core Principles

A discussion on reform must take place in a well-reasoned and rational manner. Rushing into any structural changes could lead to unintended consequences. Change for the sake of change that does not guarantee a stable, predictable funding stream does nothing more than create a different bureaucracy. NATCA will oppose any overhaul that creates a private, for-profit entity to oversee air traffic control services. That would simply create a new funding problem in place of the old one. Any reform must ultimately ensure the following:

1. Safety and efficiency must remain the top priorities;
2. Stable, predictable funding must adequately support air traffic control services, staffing, hiring and training, long-term modernization projects, preventative maintenance, and ongoing modernization to the physical infrastructure;
3. Robust and continued growth of the aviation system is ensured; and
4. A dynamic aviation system continues to provide services to all segments of the aviation community, from commercial passenger carriers and cargo haulers, to business jets, to general aviation, from the major airports to those in rural America.

It is critical that the specifics of any reform are vetted among all stakeholders, and NATCA will not commit to any concepts in a vacuum. Not only do the principles of reform need to be sufficient to meet the needs of the NAS, but so do the details of any overhaul. We are concerned that the transition to a new system could cause disruptions in service that could negatively affect aviation as an economic engine. It is especially important that any transition is well planned and thoughtfully designed in order to limit any disruptions—there simply cannot be a disruption in services during a transition. The transition period must also be sufficient. Change cannot be made by flipping a switch. Given the National Airspace System's 24/7 activities, any transition, no matter how small, must be seamless and deliberate. NATCA will support nothing less.

Proposed Models Being Discussed in Public Domain

Over the years, NATCA, other industry stakeholders, and this Committee have observed that funding challenges have become the norm. Year-to-year, the FAA has experienced continuous challenges and faced significant problems because of a lack of a predictable funding stream. As a result, stakeholders, think tanks, and others have been looking at alternative funding and structural models that could address these funding problems. Here are some of those alternatives, followed by a brief description of each and a discussion regarding their advantages and disadvantages.

- *Status Quo Model:* In this model, the FAA would remain as is with the same funding and structure. Governance would remain within the U.S. Department of Transportation (DOT).
- *Enhanced Status Quo Model:* In this model, governance would remain within the U.S. Department of Transportation (DOT), but changes would be needed to address the manner in which the FAA is funded without changing its structure.
- *Government Corporation or Independent Agency:* This model would pull the FAA, in whole or in part, out of the Department of Transportation, and create a government corporation or independent agency. The government corporation model would require a Governing Board that includes stakeholders and government officials. This model would leave air traffic control functions within the government, but would remove them from the DOT.
- *Not-For-Profit Model:* This model would require a Governing Board with stakeholders and government officials. An example of this would be NavCanada, whose board has three directors elected by the government of Canada. In this model, safety oversight and regulatory functions would remain within the FAA.

Findings & Analysis

Below are some key points on the potential structural models that have been discussed for the FAA, and the effects these changes would have on air traffic control. NATCA will not endorse a particular system without knowing all of the details and ensuring a seamless transition.

Status Quo Model

Simply restructuring the FAA should not be an option because it does not solve the funding problems. The FAA has been restructured numerous times, and with each restructuring we have seen increased bureaucracy. Restructuring has created more overhead and non-operations jobs, effectively increasing the time to get results. One example of this is in the procurement process. The FAA is exempt from the normal government procurement process, but has developed its own bureaucratic process that mirrors the rest of government. Unfortunately, this process is inappropriately slow and complicated for a system that needs new technology as quickly as possible.

Enhanced Status Quo Model

For this model to succeed the FAA must have multi-year appropriations and long-term authorization, budget flexibility, mandatory funding for FAA employees, and no disruptions to operations, modernization efforts, and other safety related services.

Government Corporation/Independent Agency Model

There is no profit motive in this model, and the national interest would be preserved without risk. This model could be funded in a manner similar to the Aviation Trust Fund, which would fund a system that supports operations, training, and modernization, with the benefit of a leaner bureaucracy and fewer obstacles to implement changes.

A significant benefit of this model is the potential for an alternative funding process, meaning that politics would be less likely to interfere with the safety and efficiency of operations. Several additional methods could be utilized to generate revenue, such as raising funds through public-private partnerships that use lease-backs of facilities. Consolidation and realignment, when properly designed, could save money, and technology could be updated more efficiently without compromising the safety of the system. This model could also encourage innovation from within the organization, as has happened in other non-profit Air Navigation Service Providers (ANSPs).

One concern is that a different funding model could be a deterrent to General Aviation (GA), which is sensitive to changes in services and generally uses facilities that have lower traffic volume.

Not-for-Profit Model

The positive aspects of this model include it being single-mission focused, allowing for a more streamlined procurement process, greater flexibility for technology development and less bureaucracy than the current FAA.

The cons include requiring a long transition period to create a not-for-profit model. This model may also very difficult to apply to our NAS because the U.S. system is so diverse and complex.

This model also poses risks regarding the protection of the greater good. A not-for-profit model must still be cost-conscious and may be forced to diminish services to rural areas because they do not offer high returns. This would only be a problem for a model completely separate from the government, however; any model that is maintained within the government can be insulated from these types of concerns.

The NAS is a national asset that is essential to communities that rely on air traffic services, and it benefits even those who do not fly. There is a national interest in maintaining aviation growth, and not only in those areas where profits can be made.

NATCA absolutely opposes any model that derives profit from air traffic control services, and we will not support a model that allows the operations to become a driver for profit. There are several reasons why air traffic control services should not become profit-driven. First, it could lead to compromising necessary operational redundancies to increase profit margins. Cutting corners to save costs could ultimately compromise safety. A profit-driven system would likely cut services to rural communities because of the lack of returns for shareholders. A profit-driven system might also be an impediment for our General Aviation (GA) sector, which is very sensitive to changes in services or increased costs.

In addition to the dangers of creating a profit motive, a for-profit model would be logically difficult to create. There would inevitably be a lengthy transition period to turn the current FAA into a for-profit entity, and the transfer of assets would be a complicated process as well.

Other Air Navigation Services Providers (ANSPs)

As this discussion has progressed, many stakeholders have sought to examine how other ANSPs are structured, and how well they deliver air traffic control services.

- *NavCanada in Canada:* This privately owned, not-for-profit company established in 1996 controls the operations of the air traffic control system in Canada. Its revenue source is user fees. The advantage of this system is its single-mission focus that prioritizes efficiency. However, NavCanada had a difficult and lengthy transition period. While there may be benefits to the Canadian model, NATCA is uncertain if that model is scalable to the size, complexity, and diversity of our airspace. For example, the U.S. controls 132 million flights annually (2012), compared to 12 million in Canada in an area a fraction of the size of our NAS. The U.S. has 21 centers, compared to seven in Canada, and 315 towers compared to 42. According to Airport Council International's Top 30 Busiest Airports in the world (based on aircraft movements), the U.S. currently has eight of the top 10 busiest airports in the world, and 15 in the top 30. Canada has one: Toronto, which comes in at number 16.

We are not just concerned about the scalability for the ANSP, but also for the Civil Aviation Authority that would be left behind to conduct the governmental safety and regulatory oversight of the ANSP and the NAS as a whole. Additionally, a seamless transition would be more complex in the U.S. due to the size of our system compared to that of Canada.

- *NATS in the UK:* This private, for-profit corporation includes the government in a public-private partnership. However, the profit motive remains. A December 2014 large-scale failure caused delays and cancellations. Some have attributed that incident to cost-cutting efforts that have delayed upgrades. In addition, in the fall of 2014, NATS lost a bid to provide air traffic services for Gatwick Airport in the UK. Instead, the airport agreed to contract air traffic services to the German ANSP (described below).

- *Deutsche Flugsicherung in Germany:* In Germany, the government controls air traffic services, which were transferred to a state-owned corporation, called Deutsche Flugsicherung (DFS), in 1993. The system is funded through user fees, which are sufficient enough to cover operations and modernization efforts. Likewise, DFS improved productivity and operational efficiency through investments in facilities and equipment. At the time of air traffic services' transfer to DFS, Germany's Federal budget constrained efforts to modernize the air traffic control infrastructure.

Conclusion

Many in Congress, as well as several key stakeholders, including the FAA, agree that interruptions to the funding stream are detrimental to the operations of the NAS. The status quo is unacceptable, and something must be done to ensure continuity of funding.

NATCA believes the U.S. must have a mission-driven model. We cannot lose sight of the fact that any new model will need to continue running the safest, most efficient, most diverse, and most complex airspace in the world. Safety and efficiency are our top priorities, and any proposed changes cannot jeopardize them.

While considering possible reforms, we must protect and strengthen this national asset; our National Airspace System is a treasure. We must continue to create an environment that encourages the growth of the aviation sector, allowing the integration of new users, new innovation, and new technology, while continuing to maintain our global leadership. There is much at stake. We must find the path that improves the system without causing unintended consequences that set us back. The U.S. has always led the world in aviation, and we must continue to do so.

NATCA appreciates the opportunity to appear before the Committee and participate in this dialogue.

The CHAIRMAN. Thank you, Mr. Rinaldi. Mr. Bolen?

STATEMENT OF ED BOLEN, PRESIDENT AND CEO, NATIONAL BUSINESS AVIATION ASSOCIATION

Mr. BOLEN. Thank you, Mr. Chairman, members of the Committee. General aviation is an important American industry. It represents over \$200 billion to our economy and it employs over a million workers.

Business aviation in the United States fosters economic development in small towns and rural communities. It helps companies of all sizes be efficient and productive, and it helps with our humanitarian efforts, whether it is responding to forest fires, flooding, or getting transplant organs to treatment.

NBA is honored to be here today. We represent over 10,000 member companies, companies of all sizes, companies in all types of industry. We also represent hospitals, universities, and non-profits.

Eighty-five percent of NBA's members are small and mid-sized companies. They generally are operating out of small towns and secondary markets. They are generally flying either from or to an airport with no commercial service.

Business aviation is fundamental to the economy of small towns and mid-sized communities in the United States.

Typical of our membership is Schweitzer Engineering out of Pullman, Washington. Schweitzer is a high tech engineering company located in a community with very little commercial service. It is able to compete effectively in the international market because it has access to business aviation. Mr. Chairman, every member of this committee has a company like Schweitzer in a community like Pullman.

Just as a matter of perspective, there are fewer than 500 communities in the United States with any type of scheduled airline service. There are 5,000 communities in the United States that rely on business aviation for economic support.

The FAA reauthorization bill has a lot to do with communities like Pullman and companies like Schweitzer. Why do I say that? Because the airspace above our heads belongs to the American public. It does not belong to any one stakeholder or any industry seg-

ment. Our Nation's air transportation system serves and must continue to serve all Americans across this vast country of ours.

The fundamental question of reauthorization is who is going to ensure that our public airspace serves the public's benefit. Will it be the public's duly elected officials or will it be some combination of self interested parties.

For decades, suggestions have been made that Congress wash its hands of the air traffic control system, give over to other parties taxing authority and the authority to determine who can access airports and airspace. This has been something that has been pushed since long before NextGen was a concept, and long before sequestration.

These interests have been wanting the sweeping authority to determine who gets taxed what and who can fly where and when.

Mr. Chairman, the power to tax has been called the power to destroy. Today, that authority appropriately resides with elected officials, so, too, the power to ensure non-discriminatory access to airports and airspace.

Congress should not advocate, relegate, delegate, or outsource its authority over taxes and access. In fact, the Congressional Research Service recently said to do so may well be unconstitutional.

Currently, the United States has by all empirical measures the largest, the safest, the most efficient, the most complex, and the most diverse air transportation system in the world, but the business aviation community is not content with the status quo. No American should be.

Being the best today does not mean we will be the best tomorrow. In fact, complacency is our enemy. That is why the business aviation community has been active and outspoken in its support for NextGen. In fact, no industry segment has done more. Our members have invested in technology, and we urge Congress to do the same.

Serious problems do exist with the NextGen program. To date, programs have been delayed, implementation of operational benefits has been slow, and we still have a lot of work to do in terms of certifying technologies.

It is time for us to focus like a laser on those problems. It is time for us to not be distracted from what we need to do. We need to use this FAA reauthorization bill to make sure that we are making NextGen a reality, to make sure we are improving the certification and approval process, to make sure we are protecting our Nation's system of airports, to make sure we are certifying, implementing, and integrating in a safe way UAVs.

There is a lot of work to be done. NBAA and its member companies look forward to working closely with you to do it. Let's just never forget that the public airspace should serve the public's benefit.

[The prepared statement of Mr. Bolen follows:]

PREPARED STATEMENT OF ED BOLEN, PRESIDENT AND CEO,
NATIONAL BUSINESS AVIATION ASSOCIATION

Chairman Thune, Ranking Member Nelson and members of this committee, thank you for inviting me to testify here today. My name is Ed Bolen, and I'm the President and CEO of the National Business Aviation Association.

NBAA and its Members commend you for your continued focus on a priority of national importance—reauthorization of the Federal Aviation Administration.

As we know, the outcome of this debate will have implications for all aviation segments, including the thousands of companies that rely on a general aviation airplane to do business in small communities all over this vast country of ours.

Business aviation is an important engine in our Nation's economy and a vital link in our transportation system.

Business aviation fosters economic development in small towns and rural communities. It helps businesses of all sizes to be efficient, productive and competitive—no matter where they happen to be located. And, business aviation assists in our Nation's humanitarian efforts. Every day, business aviation transports patients to treatment centers, reunites combat veterans with their families, and flies organs for transplants.

NBAA is proud to represent more than 10,000 American members who rely on the use of general aviation aircraft to meet some portion of their transportation challenges.

Our members are businesses of all sizes, and also hospitals, universities, and other non-profit entities. Eighty-five percent of our members are small and mid-size businesses, most of which are located in secondary and tertiary communities. They use a range of aircraft for business purposes, including pistons, turboprops and business jets. Most of these aircraft begin or end their flights at airports with no scheduled airline service.

I think it's useful to provide four examples of our members, from the four corners of America, to illustrate what business aviation looks like.

Let me first point to Manitoba, a family-owned metals-recycling company located in Lancaster, NY. The company's third-generation CEO, Richard Shine, started using business aviation to help his company survive when the local manufacturers that provided scrap metal to Manitoba disappeared.

Richard put business aviation to use for his company. In a typical day, he would fly out of Niagara Falls Airport to be in two or three cities each day to meet with prospective metal suppliers.

Over the decades, Manitoba's reliance on the airplane hasn't changed. Richard reports that, "Today as much as ever, I rely on my airplane, and my ability to reliably access several airports each week, to get outside my region and generate the metals I need to stay in business. If special interests are allowed to control my access to airspace and airports, I'm in jeopardy of losing the business."

A similar story to Richard's is that of entrepreneur Brad Pierce, the President of Orlando-based Restaurant Equipment World, a family-owned company founded by Brad's father.

Brad has said that his company's airplane has been instrumental in expanding the growth of his business. He uses it week in and week out, flying to visit customers throughout the Southeast, and as far away as California, making stops all along the way.

For this kind of business model to work, it is absolutely essential for Brad to have access to airspace and airports, at a reasonable cost.

"If our aviation system was turned over to special interests that could control how much I pay to access the system, and when and where I was allowed to fly, it would destroy my business," Brad has said. "We cannot let that happen."

A third illustrative example of what business aviation looks like can be found in the story of Dr. Michael Gregory, the chairman and founder of a business called Apogee Physicians, an Arizona-based firm that uses a business airplane to provide doctors to medically underserved communities spanning four time zones. The towns served by Apogee's doctors include Grants Pass, OR; Marion, IL; and Thomasville, GA.

Dr. Gregory often calls his airplane "a lifeline" to the communities where his doctors are located. "But in order to be able to get doctors to patients on a real-time basis, I must have reliable access to airports and airspace," he adds. "If our aviation system were changed so that I couldn't access any town, at any time, I wouldn't be able to quickly get my doctors to those who need their life-saving treatments."

A fourth demonstrative example of business aviation can be found in Schweitzer Engineering Laboratories, an employee-owned business located in Pullman, Washington. The company's founder, Dr. Ed Schweitzer, works with a team of engineers to develop computer systems, power-grid technologies and other leading-edge innovations. The company does business all across the U.S., and in more than 100 countries around the world.

Schweitzer could not compete in a global marketplace without business aviation, because it is often the only way the company's personnel can meet the real-time demands of servicing power grids and other infrastructure.

Manitoba Recycling, Restaurant Equipment World, Apogee Medical Physicians, Schweitzer Engineering, and countless other companies like these are located in small and mid-size towns far away from the major metropolitan areas. In those towns, such companies are vital to job creation and economic activity.

In fact, studies have shown that general aviation contributes to the creation of more than a million jobs in the U.S., and more than \$200 billion in economic activity each year.

The reason for this economic success story is largely due to the ability of business aviation to access small community airports. The airlines serve fewer than 500 airports in the U.S., but business aviation can access about 5,000 airports.

Access to airports, and to the Nation's airspace, is what creates all those jobs, generates all that economic activity, and helps make America's aviation system work for all Americans.

During the FAA Reauthorization process, it is critical that Congress keep in mind that the airspace above our heads belongs to the American public. It doesn't belong to any private company, or group of companies. It doesn't belong to any segment of the aviation industry, or even the aviation industry itself. The airspace above our heads belongs to the American public, and it should be operated for the public's benefit.

The question on the table—perhaps the fundamental question in this reauthorization debate—is who is going to ensure that our public airspace is operated for the public's benefit?

Will it be the public's elected representatives or will it be some combination of self-interested parties?

In the past, some of the parties pushing Congress for major changes have wanted for themselves the sweeping authority to determine: (1) who gets taxed, and in what amounts; and (2) who will have access to airports and airspace, and who will get shut out.

John Marshall, the first Chief Justice of the Supreme Court, had it right when he famously wrote that the "power to tax is the power to destroy." Today, that authority resides with the American public's elected representatives. So, too, does the power to ensure non-discriminatory access to airports and airspace.

Congress should not abdicate, relegate, delegate or outsource its responsibility in the areas of aviation taxes and fees. Nor should it abdicate or delegate its responsibility to ensure non-discriminatory access to airports and airspace.

In fact, the Congressional Research Service recently wrote that giving a non-profit, privatized air traffic control corporation the authority to set user fees and establish air traffic flow controls may well be unconstitutional.

Let's face it: It is difficult to see how a combination of self-interested industry representatives would really exercise taxation and access authority in a way that best serves the public, rather than their best commercial self-interest.

During this reauthorization debate, let's not get distracted from the hard work that needs to be done. Today, America has, by all empirical measures, the largest, safest, most efficient, most complex and most diverse air transportation system in the world.

But the business aviation community is not content with the status quo. No American should be. Being the best today is no guarantee you will be the best tomorrow. And having the world's strongest air traffic system is in the best interest of all Americans. Complacency is our enemy.

That is why business aviation has been an active and outspoken champion of NextGen. No industry segment has done more than business aviation to make NextGen a reality. We want and need the benefits of increased capacity, enhanced safety and a reduced environmental footprint. We are investing in NextGen equipment and we are asking Congress to do the same.

We know challenges need to be addressed. There are NextGen programs that are delayed, operational benefits that are slow to be implemented and decommissioning of legacy equipment that has been deferred. We desperately need to streamline our certification and approval process. All of this increases funding pressures.

Let's get about the serious work of fixing these problems, and making NextGen a reality, so that all Americans—including those in small towns and rural communities—can continue to receive the benefit of their public airspace.

Congress does not need to turn over its power to tax to do that. With regard to taxes, it is important to note that while no industry likes paying taxes, or wants to pay anymore taxes than necessary, the general aviation community has always said that the fuel tax mechanism is the perfect mechanism for our community to contribute funding for our Nation's air transportation system.

The general aviation fuel taxes are easy to pay and difficult to avoid. They require users to pay before they fly, not after the fact. They are progressive in nature, and

closely approximate one's use of the system. They create a constant incentive to invest in fuel-efficient technologies and fly fuel-efficient routes. Finally, they do not require a bureaucracy of agents, collectors and auditors to administer.

The authority over taxes and access to airspace and airports belongs to Congress, and it is an authority that should not be abdicated or delegated. Communities of all sizes in every corner of the country are depending on you to retain your oversight authority in the areas of taxes and access, to ensure that the public airspace benefits the public.

Mr. Chairman, in closing, I'd like to provide our basic guiding principles for FAA reauthorization, which we request the Committee consider as it works to develop legislation. Those are as follows:

- *Make NextGen a reality.* NextGen is our plan to retain our world leadership position in air traffic management; the question is, how do we make it a reality? That question is central to the reauthorization process. Unfortunately, the challenges are significant—NextGen is not simply a matter of “flipping a switch,” as some would have you believe. Make no mistake about it: no one is content with the clarity, pace or cost of the transition to NextGen to date—we need to do better.
- *Keep Congressional control over taxes, fees and charges.* For the people who have to pay them, mandatory taxes, fees and charges are all the same. Proposals may be put forward that would effectively take authority to fund our aviation system and put it in the hands of nonelected officials. A dialogue about finding a new governance structure may be appropriate, but the composition and scope of its authority matters. Congress must retain authority over taxes, fees and charges. This is not a responsibility that can be transferred, delegated or outsourced.
- *No user fees.* As the members of this subcommittee know, the general aviation community, including business aviation, pays a fuel tax to fund its use of the aviation system. This mechanism is an unmatched proxy for system use, because the more often you fly, and the longer distances you fly, the larger your aircraft, and the more fuel you burn, the more taxes you pay. The fuel tax is also highly efficient: paying at the pump means full compliance, without a collection bureaucracy—a “SKY-R-S”—needed to administer fees or charges. The fuel tax also covers all of the air traffic control services, including those for flight safety, that are needed in a typical flight. We don't want to promote a disincentive for people to use safety services. Simply put, anything that could be done through a user fee, the fuel tax can do better. For all these reasons and more, Congress has repeatedly written to the current and previous Administrations in opposition to per-flight user fees, and should continue to oppose them.
- *Ensure predictable, affordable access to airspace and airports.* The inherent value of business aviation is the ability of companies to fly where they need to, when they need to. Things that impede our access to airports and airspace have the potential to do great harm. Business aviation must have continued access to our Nation's airports and airspace. As we have learned in Australia and other parts of the world, this is not something that can be taken for granted.
- *Protect the privacy of those in flight.* The Automatic Dependent Surveillance-Broadcast (ADS-B) technology, a cornerstone of the FAA's satellite-based NextGen system, does not currently include needed protections for operators' privacy and security. While NBAA has long promoted the development of ADS-B, we have consistently pointed out that, in transitioning to satellite-based navigation and surveillance, we must ensure that it makes accommodations for privacy.

When it comes to ADS-B, we continue to believe that people should not have to surrender their privacy and security just because they travel on a general aviation aircraft. This committee was integral in protecting these rights previously, and we respectfully request that these privacy protections be addressed in the pending 2015 FAA Reauthorization bill as well.

- *Protect our airport system.* Our national system of airports was created to provide communities with access to a safe and adequate public system. We must ensure that our system of airports meets national objectives, including economic growth, defense, emergency readiness, law enforcement, postal delivery and other priorities.

Unfortunately, in certain regions of the country, attempts are being made to close important airports, even when Federal investments and assistance have been provided to ensure these airports meet national economic and other priorities. We support giving the Secretary of Transportation sufficient discretion to

allow an airport to remain open for purposes of protecting or advancing civil aviation interests of the United States, if standard conditions become unenforceable. Simply put, we must continue supporting facilities, at the Federal level, as part of a single, national aviation-transportation system.

We strongly believe that airports should be good neighbors and should work with communities to maintain a balance between the needs of aviation, the environment and the surrounding residences. However, over the years, attempts have been made to create new restrictions and impediments for aviation users through airport curfews and other local initiatives to restrict access to airports. We must be vigilant in stopping ongoing attempts from local interests to compromise the national nature of our aviation system.

- *Improve the certification and approval process.* The approval process can be cumbersome, unnecessarily taking up time and resources. The FAA should constantly look for ways to keep or improve safety, while adopting more efficient, effective business-like processes.

- *Ensure the safe introduction and integration of new aviation technologies.* NBAA would also like to take this opportunity to commend the U.S. Department of Transportation (DOT) and FAA on their recent release of a notice of proposed rulemaking toward adopting a regulatory framework governing the commercial operation of small, unmanned aircraft systems (s-UAS) weighing less than 55 lbs.

The FAA has taken a good first step in releasing these initial guidelines to provide a much-needed regulatory structure for these operations. We urge the Committee to work closely with the DOT, FAA and the UAS industry as they work to integrate UAS into the national airspace system in a thoughtful, deliberative process focused on ensuring the safety and security of all aviation stakeholders.

- *Ensure continuity of government aviation services.* Aviation aircraft and parts cannot be produced, financed, bought or sold without the written approval of the Federal Government. When the FAA Registry Office was shuttered in the 2013 government shutdown, it significantly impacted much of America's general aviation industry, including thousands of businesses that use general aviation aircraft for parts delivery, customer visits, aircraft repairs, fuels sales, hanger construction and aircraft brokerage activities.

We urge the Committee to include language in the pending FAA reauthorization legislation, which would ensure that the important aviation safety and security functions of the FAA Registry Office are protected from any future government shutdowns.

I look forward to responding to any questions the Committee may have. Thank you.

The CHAIRMAN. Thank you, Mr. Bolen. You are a very efficient panel. Everybody came pretty close to the five minute rule, even our former colleague managed to adhere pretty closely to that.

[Laughter.]

The CHAIRMAN. I have a couple of quick questions for Mr. Huerta a little bit off topic, but I need to ask him, because over the weekend there were these media reports that indicated a security researcher claim to have temporarily taken control of an engine on a passenger aircraft by hacking into the inflight entertainment system.

If true, this would certainly be a very disturbing incident. What has been the FAA's response to this matter, and do you feel the FAA is well equipped to analyze these types of threats against the flight control systems on passenger aircraft?

Mr. HUERTA. First, with respect to the specific incident, we are cooperating with the FBI in their investigation. They are working on that.

As it relates to the larger question, cyber, this is something that is an ever evolving threat, and something that we are looking very

carefully at and that we are taking very seriously, not only in the operation of our system but also in the manufacture of aircraft.

That means we are working closely with the manufacturers to understand how the threat morphs, how it evolves, how it changes, and how do we stay ahead of it, by having as we have always had many layers of security and control over access to critical systems within the aircraft.

I will say that I think cyber is and will continue to be a very significant challenge not just in aviation but in any technology based sector, and it is something that we have to work cooperatively across government and industry to ensure that we are staying ahead of.

The CHAIRMAN. That incident over the weekend is still being investigated?

Mr. HUERTA. Yes, sir.

The CHAIRMAN. There is nothing to report about that at this time?

Mr. HUERTA. That is correct.

The CHAIRMAN. There is a recent report by the National Academies that noted it would require a significant effort for the FAA to attract, develop, and retain the work force talent to deal with cybersecurity challenges going forward.

When you talk about that issue and the agency's efforts, how do you deal with the limitations the government faces in competing against private sector employers in some of these fields?

Mr. HUERTA. Well, a factor we always need to consider is do we offer a competitive job and do we offer competitive compensation for that. For us, that is a combination of ensuring that we are casting the broadest possible net, but I think it is also important to point out that while we do operate within the government environment, there is a significant portion of our applicant pool and our work force generally who is interested in coming to work for the FAA because of their belief in the mission and their belief in public service.

It is a very competitive environment that is out there. We are never going to pay the top salaries that top technology companies pay. Our focus is on how we can ensure that we have an orderly process for promoting and retaining people and how we sell the job itself.

The CHAIRMAN. This committee, of course, is very interested and concerned with cybersecurity as it relates to ATC and NextGen. We will continue, I am sure, to be in touch with you on that subject.

I want to turn back to the subject at hand today. Mr. Rinaldi, you spoke about how the status quo with regard to funding is not an acceptable situation. Can you assess among the options that have been put forward how some of those reform options provide for more stable funding for the ATC system than the current government model?

Mr. RINALDI. Thank you, Mr. Chairman. We have been studying probably for the last 18 months some of the other countries, and when they broke off the air traffic control services from the government entity, and some of them have done very well and some are still struggling.

What we are looking at is to make sure that we have a stable, predictable funding stream, and then if we are going to change the structure, the one thing that we know for sure we do not want is a system that is for profit. It would just put another barrier, another hurdle in front of us to actually provide the safest and most efficient system in the world.

The CHAIRMAN. There has been a lot of discussion in the context of reform, about what is happening to the north of us in Canada as a model for comparison. Understanding there would be some reluctance to simply copy their model reform effort, I am curious to know what aspects of the Canadian air traffic control system your members find most appealing.

Mr. RINALDI. I was up there last week visiting in Ottawa and looking at their technical center. I think the unique thing they do is they have a true collaboration from the position out in developing their NextGen technology. They have the air traffic controller, the engineer, and the manufacturer working together from the conceptual stage all the way through to training, implementation, and deployment within their facilities.

What that does is save time and money, and they actually are developing probably the best equipment out there, and they are selling it around the world, and they are doing it in 30 months to a 3-year timeframe, when we have to look much longer down the road because of our procurement process in this country.

The CHAIRMAN. This will be for Governor Engler, Senator Dorgan, and Mr. Smisek. In the context of an independent ATC services provider, some of you have referenced a preference one way or the other or at least suggested several different models.

Can you speak to the differences between a Federal corporation, a federally chartered non-profit corporation, and what might be the pros and cons of each approach?

Mr. ENGLER. We convened a group of experts to look at this. Their kind of consensus was that probably a non-profit corporation outside the government allowed for maximizing your shareholder participation, including some of the benefits Mr. Rinaldi just spoke up, speeding it up.

One of the things that also would happen is the ability to get that bonding authority. We really are talking about NextGen as a capital project. If a Governor were doing this or Senator Peters when he is back in Michigan, we would have bonded the project and done it in a fairly short period of time, and then you would be continuously improving.

The nimbleness of the corporation, in the entity, that would seem to be—we have not endorsed a specific approach, but I would say kind of the people we have consulted with tend to rely on that non-profit corporation with the shareholder management, if you will. We think that gets you the most bang for your buck.

I also think over time it gets us back out on the innovation leading edge where we are simply not today.

Senator DORGAN. Mr. Chairman, we have submitted to you a fairly substantial document that the Eno Center for Transportation, Jim Burnley and myself, and the other folks that were involved produced. It describes a series of different approaches with

strengths and weaknesses of each, and also describes in some detail what other countries have done.

I think what Governor Engler indicated is the most important point, and that is the stability of funding for a project of this type is essential. I served in the Congress 30 years. There is a lot I do not know, but I do know this, in a time of spending restraint, in a time of sequestration, in a time of multiple continuing resolutions and all the things that are coming at us, there will not be stable funding for this type of project in the future unless it comes through a bonding capability and another type of organization.

It is important to note that I do not support something that does not have the government as a stakeholder. I support and believe that this project will not get done for the country the way we want to see it getting done, to regain our leadership, unless we decide to do it in a different structure.

To do that then allows us stable funding through bonding capability and so on, with the input of all the key stakeholders, including the government.

The CHAIRMAN. Mr. Smisek, do you have anything to add?

Mr. SMISEK. Thank you, Mr. Chairman. Airlines for America supports a non-profit corporation for a number of reasons. First of all, a user fee structure, as Senator Dorgan and Governor Engler have mentioned, would provide a stable stream of funding that could be funded, so there could be rational infrastructure investments made, and assurance of funding and stability.

Second, this would be governed by a Board of Directors comprised of stakeholders, representatives, for example, from the Department of Defense, the U.S. Government, general aviation, commercial air carriers, air cargo carriers, NATCA, and union representatives, so the stakeholders would be present and would govern, but they would have fiduciary duties to the enterprise.

They would not be employees of the government or employees of the airlines or employees of the unions, but rather would have fiduciary duties dedicated to the mission and safety of the air traffic control system.

Also, the efficiencies that would be driven from a non-profit corporation, we have very good evidence of that from Canada. That would provide funding as well for excellent and stable and professional management.

You mentioned the ability, as Administrator Huerta mentioned, to attract and retain an excellent work force, including cybersecurity experts, which are quite important in any enterprise, and that enterprise would also be free of the political influences that so bedevils the FAA and its ability to modernize today.

The CHAIRMAN. Thank you, Mr. Smisek. Senator Nelson followed by Senator Wicker.

Senator NELSON. Thank you, Mr. Chairman. I want to follow up on your introduction of the question of the cyber attack. Part of what we are looking to do in this Next Generation is we are going to do air traffic control off satellites. You could be a lot more efficient. You can have awareness right from the cockpit of the other airlines around. There is not only the cost of transitioning from the ground-based radar, there is the question of the backup of the ground-based radar.

What happens if there were a cyber attack on the GPS that shut it down, Mr. Smisek, on the arrangement that you are talking about, who would bear the cost of that back up of the ground based radar, since that is the less efficient operation?

Mr. SMISEK. Senator Nelson, I am certainly not an expert on cybersecurity, but it is necessary in any enterprise, the enterprise we are talking about or any enterprise, to have very expert investments in cybersecurity.

It is a risk and no doubt a growing risk as we become the Internet of all things. Certainly an attack on the GPS system would not simply affect the air traffic control system, it would affect the Department of Defense, it would affect everything.

Senator NELSON. Right. In the private corporation, who would bear that cost?

Mr. SMISEK. If as a result of concerns that were sufficiently material to the ability of someone to bring down the GPS system, of which I certainly have no knowledge at all, and if it were determined there would be a required back up, then that would also be the responsibility of the non-profit corporation, because it would be responsible for operating the system, as would NavCanada or anyone else.

I am not actually familiar with whether Canada has retained a back up radar system. Perhaps Mr. Rinaldi would know that.

Senator NELSON. You are saying the private corporation would in fact retain the ground based radar as a backup system?

Mr. SMISEK. I am not saying that, sir, because I do not know whether that would be necessary based upon the robustness of the technology itself.

Senator NELSON. That is one of the costs. Mr. Administrator, why is DOD weighing in on this so heavily, that they are concerned about this privatization? Can you speculate how privatization would impact the relationship with DOD, and would you be able to interact with a private entity or non-profit corporation in the same way that you have existing opportunities to interact with DOD?

Mr. HUERTA. Senator Nelson, I can certainly speak about the relationship and the working procedures we have with the Department of Defense as they exist today. They are an important partner in the provision of air traffic control services, and they control certain airspace in the country, we control certain airspace in the country, and we have a shared responsibility for efficient and effective management of the safety of the air traffic control system.

We often take advantage of the airspace they use exclusively during peak travel periods to accommodate additional traffic loads. We work collaboratively with them to ensure they have access to airspace they need for their mission requirements and for training.

Senator NELSON. I understand you work collaboratively with them. Why do you think they are weighing in so vigorously?

Mr. HUERTA. I cannot speak to why they are weighing in, but I think what it ultimately depends on is what would be the structure in an alternative model under which they would interact with their partners in the air traffic system.

It would strike me that there would be a way to build protocols, but it is entirely dependent on what structure would be selected.

Senator NELSON. Mr. Bolen, why are the general aviation business manufacturers so concerned about this? You represent folks like Embraer, Gulfstream on the G-5, Cessna, et cetera. Why are they so concerned about this?

Mr. BOLEN. As I mentioned earlier, 85 percent of NBAA members are small and mid-sized companies. They are flying into and out of airports with little or no commercial airline service. They are concerned about their access to airports and airspace, and they are concerned about ensuring their access is safe, it is predictable, and it is affordable.

I think one of the questions that came up earlier was about financing the system, and what we heard is one of the plans for the future is to have bonding authority, which is a euphemism for borrowing.

The reality is that today, our current system generates through taxes a largely, but not entirely self-sufficient, system. We do that through a combination of user fees and taxes plus a general fund contribution that then fully funds the FAA.

The question on the table is if we pull the general fund contribution out, then we will have a situation where all of those industry contributions do not equal the amount we have today. Thus, we can either raise the taxes to get to that amount, we can cut the system to get to the amount, or as you have heard, we can go borrow the money. Borrowing money comes at a cost, that has to be serviced, and prolonged borrowing ends up creating an interest nightmare.

There are issues here that need to be addressed. What we want to do is make sure that all the small towns, the rural communities, the secondary and tertiary markets around the United States, are able to have business aviation located in their communities and being able to access the airports and airspace in the major markets where those companies need to go as well.

Senator NELSON. Thank you. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Nelson. Senator Wicker?

**STATEMENT OF HON. ROGER F. WICKER,
U.S. SENATOR FROM MISSISSIPPI**

Senator WICKER. Thank you. Senator Dorgan, let me just begin. Is every witness here a part of this working group?

Senator DORGAN. No.

Senator WICKER. I think this is an excellent report, so kudos to the authors. Would you do this for me, because in reading through, I think at some point there needs to be a page where the owners take ownership of this, and I do not see that. We checked the website and found a number of people. Would you provide that for the record? Would you do that, sir?

Senator DORGAN. I would be happy to do that.

[The information referred to follows:]



Co-Chairs

Former Senator Byron Dorgan
Arent Fox LLP

Former Secretary of Transportation Jim Burnley
Venable LLP

Membership Organizations

Aerospace Industries Association
Alaska Airlines
Air Line Pilots Association
Aircraft Owners and Pilots Association
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American Airlines
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Steve Ditmeyer, Michigan State University
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David Grizzle, Dazzle Partners LLC, Former COO, FAA's ATO
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Norman Mineta, Former Sec. of Commerce and Former Sec. of Transportation
Eric Peterson, Transportation Policy Consultant
Dorothy Robyn, Former Special Assistant to the President for Economic Policy

Senator WICKER. Mr. Bolen, are you part of this working group?

Mr. BOLEN. We were part of the working group but we did not feel our concerns were being reflected, so we are no longer part of that.

Senator WICKER. I think that is probably accurate to say. There are three options that involve some major structural change, 100 percent government-owned Federal corporation, second, independent non-profit organization, and third, private for-profit corporation.

The fourth option sort of basically tells Congress that we ought to do our job, get the funding straight and make sure that it is reliable and steady. The fourth option would reform the system's funding stream while maintaining the system's current governance structure.

It goes on to say that this option could alleviate transition issues that are a concern with a completely new governance structure.

Would it be fair to say that your organization is more in tune with that fourth option?

Mr. BOLEN. We have studied various structures around the world. We have looked at Australia, New Zealand, England, Canada. In none of these markets do we see a robust business aviation community that is providing economic development in small towns and rural communities.

We have seen serious access issues. In Australia, for example, business aviation is not allowed access to airspace in Melbourne or Sydney on an equal basis at all. We end up waiting sometimes three, four, and five hours on the tarmac waiting to get access.

I was on a panel recently with the head of the Irish Air Traffic Control System, and he said you just have to understand, you are not going to get equal access, that is just part of the natural selection process.

As we looked at NATS in the United Kingdom, we saw that after an economic downturn, that privatized group needed a bail-out from the taxpayers.

When we looked at Canada, we saw they have instituted user charges which are very problematic, while continuing fuel taxes.

What we have seen as we have looked around is a lot of fundamental problems with some of the different structures. We want to make sure that in the United States, we are identifying problems and we are finding targeted solutions to them. To simply say we are going to pull air traffic out and we are going to give an independent board borrowing authority leaves a lot of concerns about our ability to safely, predictably, and affordably access airspace and airports.

Senator WICKER. You are saying the United States is unique in that we have the 5,000 communities that rely on business aviation, as you mentioned in your prepared remarks, and access will not be the same if we go to one of these three structural changes? Is that part of your concern?

Mr. BOLEN. Yes. Our study of the systems around the world that have taken this action have raised serious access and affordability concerns.

Senator WICKER. Senator Dorgan, it sounds like he has a good point there.

Senator DORGAN. It depends on who is listening. As Ed Bolen knows, I spoke on the floor of the Senate a number of times about general aviation and its importance to this country. I think it is very important.

The question, I think, before this committee is are we in fact going to have the latest technology, Next Generation system, built and completed in this country to allow us to fly more safely, more efficiently. The answer in my judgment is without a change in structure, we are not going to get there.

I understand there are lots of interests that are opposed to this. I am going to give you a list of everyone who participated, which were the best academicians and stakeholders from around the country. You cannot reach everyone because everyone has their own set of interests they bring to these issues.

As I mentioned to you, this is a heavy lift, which I understand. We did not put before you a pattern with all the specifics for important reasons. We would not have gotten agreement on a specific pattern with all the specifics in it.

Mark Twain was once asked if he would engage in a debate, and he said oh, yes, if I can take the negative side. They said we have not told you the subject. Oh, he said, the negative side takes no preparation.

I understand this is controversial. I will make one point, if I might. Mr. Huerta came to our organization as well. He was not a participant, but we invited him. I have great respect for him. I have and you have as well been through a lot of folks that have run the FAA. I have great respect for him. That is why we invited him to hear his vision as well.

All of us should want the same thing. The question is not the endpoint. The question is what is the route to get to that endpoint. There will not be stable funding in a time of spending restraints for the next 10 years, which will probably include sequester, probably include furloughs, and probably include a budget as we saw this year that cuts \$365 million out of the facilities and equipment account of this organization even as they are trying to climb this hill of modernization. That does not work and will not work.

Senator WICKER. A stunning indictment which very well may be correct. One quick point, Mr. Chairman. Mr. Huerta, several weeks ago, I guess it was April 14—goodness, time flies. You appeared before the full committee on a similar topic, FAA reauthorization.

A number of us asked questions for the record, particularly with regard to the Contract Tower Program. We are still awaiting those details, and I look forward to receiving answers to those QFRs, sooner rather than later.

Mr. HUERTA. Absolutely, sir. I think we are actually trying to schedule a staff briefing to go over the methodology that we discussed at that hearing.

Senator WICKER. OK. If we could have squeezed those questions in at the time, you could have answered them right on the spot. Do your best and see if you can get those answers to us. Thank you.

The CHAIRMAN. Thank you, Senator Wicker. Senator Peters followed by Senator Manchin.

**STATEMENT OF HON. GARY PETERS,
U.S. SENATOR FROM MICHIGAN**

Senator PETERS. Thank you, Mr. Chairman. Thank you to the panel for your testimony today.

Governor Engler, it is good to see you. Governor Engler and I served together in the state, he was the Governor and I was the State Senator. I recall you coming before me when I was on the finance committee then in testimony. Here we are again, in just a different capacity. It is great to see you again.

I would like really to pick up briefly on Senator Wicker's comment. It is interesting as I have heard the testimony from the panelists here and concerns about funding and sequester, budget, and that fourth option that he mentioned. It seems to me ultimately it falls back on Congress, that we are not doing our job here in providing the resources necessary to implement NextGen and other types of reforms.

The proposals that are put before us to privatize are because we are not doing our job here. Perhaps that is what our focus needs

to be, to do our job, making sure the FAA has the resources necessary to continue to go forward.

Having said that, Mr. Smisek, I have a question for you. I understand the second largest air carrier in the United States is Delta Air Lines, which has a major presence in my state of Michigan. It is a major hub for them, as well as a very large employer in the state of Michigan.

They have declined to endorse the A4A position that you have been advocating for today. Delta Air Lines suggests that the current system can become more efficient and deliver substantial benefits through improved collaboration efforts between the FAA and aviation stakeholders.

Delta fears that separating the ATC system from the FAA would lead to certain operational risks and pitfalls that they outlined, such as organizational disruption, the creation of additional structural separation, bureaucratic silos between the ATC system and the FAA safety experts, unforeseen costs that will accompany the transition to a new organization, and the loss of expert personnel and institutional knowledge.

A long list of concerns that Delta Air Lines has expressed. Could you please maybe comment on some of those concerns, and do you agree that some of those risks are indeed ones we need to consider here as a panel?

Mr. SMISEK. I would be happy to, Senator. As you can imagine, Airlines for America, like Congress, we do not always get unanimity. However, on this issue, we do have unanimity except for one member, and that member has expressed its concerns.

I will say I think our colleagues at Delta have no evidence that the FAA can become more efficient or can deliver effective services compared to a non-profit enterprise. I think NavCanada is a perfect example of that. NavCanada today has the best technology probably in the world.

I think Mr. Rinaldi would agree with me. They have brought down the costs of the system to the users by 30 percent. They are a model of safety, and they are selling their technology to third parties because they are so adept at working collaboratively with the unions, working collaboratively with experts, attracting and retaining experts. I would say that lacks evidence.

In terms of risks of transition, of course there are risks of transition. There are risks in anything large. As Senator Dorgan has said, this is a heavy lift. This is something that needs to be done.

What we know is what we have today does not work. We have candidly little to no confidence that there will be a stream of stable funding for modernization of the air traffic control system or the ability of the FAA to attract and retain qualified people to implement it or a change in how the FAA operates with respect to stakeholders in terms of collaboration.

I think this Nation should reach for greatness, and I think this is an opportunity to do so. What we know is it does not work, and I believe if we just keep doing the same thing we have been doing for all these years and expect a different result, we will get what we deserve.

Senator PETERS. Administrator Huerta, under the Eno Center proposal, ATC is spun off, as we have heard, potentially into a new

independent entity outside of government. However, the Eno Center also says that "The government must maintain a role in governance of the system since the FAA is ultimately the guarantor of the public interest."

Administrator Huerta, it is the role of the FAA obviously to put safety of the traveling public first. Are you concerned this priority might be diminished if the FAA were to only play a small part in a multi-stakeholder model of governance that has been envisioned by some of the members?

Mr. HUERTA. I would envision there would be a couple of different roles. First and foremost, there is the question of who oversees the safety of the air traffic system. Under our current structure today, we have an independent safety organization within our aviation safety structure that provides safety oversight of the air traffic control system.

With respect to some of the other questions that have been raised by the panel relating to access to the system or ensuring the public interest, I think those are all questions that would need to be carefully considered by this committee, and would need to be reflected, should there be a change in the governance model, in whatever structure is put in place to ensure all those perspectives are reflected.

Senator PETERS. Governor Engler?

Mr. ENGLER. I think it is very clear, certainly in the expanded testimony I have submitted, that the FAA remains the regulator. In fact, I think you get better regulation by separating—right now we have an inherent conflict, they are both the rulemaker and the regulator. They are judge and jury. They make the rules and they assess their efficacy.

I think the separation actually allows them to do their job very, very effectively as they do in a lot of areas. I think there is a benefit in many respects to that, and I do not think there has ever been a suggestion that somehow safety—we are talking about the air traffic control system itself, the operation of it, the vision for it, the leadership, all of that has to come back.

The other thing the FAA can contribute, which I think Mr. Smisek is better equipped to comment than I—we need a more effective way for the FAA to modernize its own procedures. Now they would be able to focus on that and get up to date on things where it does help improve the way we fly, the way airlines can manage operations.

In some cases, I think there are examples of literally rules being months if not years behind, so the ability to have a separation, division of labor, I think actually is one of what I believe to be the benefits of this idea.

I would suggest also, as I think you have pointed out in your question, it is moving to—somebody said government corporation, we have suggested a non-profit corporation, but it is far different than a private enterprise being set up, a stock company, for example.

Senator PETERS. Thank you.

**STATEMENT OF HON. JOE MANCHIN,
U.S. SENATOR FROM WEST VIRGINIA**

Senator MANCHIN. First, I want to thank all of you for your attendance today. I think we need to look at the size of what we are dealing with here. I have heard all of you, your statements, and your thoughts and beliefs in what we should be doing. I have heard basically we have the safest system in the world, and I heard it does not work, so conflicting statements coming from you all. It does not work, but it is the safest in the world.

When you start looking at the size, let's look at Canada. Canada has 42 towers and seven centers. France, 86 towers, five centers. Germany, 16 towers, four centers. Mexico, 58 towers, four centers. The United Kingdom, 16 towers and two centers. The United States of America, 512 towers, 21 centers. They do not even come close. You can put everybody in the world and they do not come close to us.

How are we saying the system does not work and we are not able to maintain a system that is the safest in the world, and it is the most used in the world?

Let me give you my little state of West Virginia. They told us if you deregulate, it is going to improve air service in rural West Virginia. We were told that. I remember that back in the 1970s and 1980s. Jennings Randolph was a pioneer at that time. I think, Senator Dorgan, you remember Senator Randolph.

We have 122 airports in West Virginia, 86 of them are little private strips here and there, 36 are public, only seven have commercial flights, and only seven of them have towers.

Our ability to move people in West Virginia has been tremendously diminished because of the relevance of what is going on.

I am just looking at the situation of where we are supposed to be improving a system by privatizing, and in some cases, I have been all for privatization. I am also for public/private partnerships.

We have contract towers, that still come under the purview, I believe, of the FAA, but they are in a private stream, if you will. That seems to have worked in West Virginia. Our towers would have been eliminated. We would have only had two towers. Five would have been gone.

I am looking at everything, how I am going to go home and explain that we are really making the system better, and then we start charging, if it was not for private aviation, if it was not for the business aviation that is going on today, we would be out of communication completely. Some of our little towns would not have any industry whatsoever because they could not go back and forth.

With that, I would just say, Senator Dorgan, if we take Congress out of the equation and spin off the air traffic control system to some non-governmental organization, how would that speak for rural America?

Senator DORGAN. Senator, no one is suggesting that the government not be a stakeholder in whatever is proposed. I do not support privatization. I told you what I do support and why.

I spent a lot of time on this committee holding up signs talking about how you could fly twice as far for half the price under deregulation. You are talking about a different subject. That subject has nothing to do—you and I agree on that subject, it has nothing

to do with the question of how you move airplanes from one part of the world to another, how to fly from one airport to another, and whether we are going to continue to use a World War II ground-based radar system or whether we are going to move to a different type of system using modern technology.

This is not a question of what is. It is a question of what will be. There is no conflict by saying this is an unbelievably safe system, there is no conflict in saying that, and also observing that we are not moving as rapidly as some others are and as rapidly as we need to move in order to embrace the new technology and retain America's leadership in an area that is very important.

I met with the Europeans and others on this subject because the world is moving in this direction. The question is how fast will we move and will we retain our leadership. In my judgment, there will not be funding to do it in the public sector, and I believe, therefore, we have to find a new structure, but not one in which the government is not a stakeholder.

Senator MANCHIN. I believe sooner or later we are going to have to get a budget that works for this country, based on priorities and based on our values. We have not done that because of the political toxicity of this place we call "Washington."

It has to change sooner or later or we are going to hit the wall and we are going to have to get into it, and it cannot be picking and choosing what side of the fence you are on.

The thing I would say is there have been reports, the Congressional Research Service highlighted some potential constitutional concerns of what we are talking about. One of my biggest concerns is delegation of taxing authority to an unelected, unaccountable Board of Directors that will have unfettered authority to adjust user fees and levy new taxes.

One of the strongest arguments being made for privatizing or incorporating our air traffic control system, is it would allow it to be financially self-sustaining, free from the political forces that often drive Federal appropriations.

I would just ask any of you here in the business arena, do you think it is legal and appropriate for Congress to relinquish our constitutional authority to levy taxes?

Mr. SMISEK. If I could jump in, sir. I do not purport to be an expert on constitutional law, but I believe it is very difficult to judge the constitutionality of a structure that does not exist and legislation that has not been drafted.

The user fee structure that we have been talking about is designed to cover the costs of the system, and only the costs of the system, and to have an appropriate reserve fund. For example, if there were reductions in travel caused by an economic—

Senator MANCHIN. I do not have a problem with that.

Mr. SMISEK. In terms of the issues of general aviation, for example, in Canada, and it could be done here, general aviation is charging an annual fee sort of like the sticker you put on your car, registration fee, a very simple process. There is no intent to use the user fee structure to change the proportion of funding the airlines today disproportionately pay, and the airlines are certainly not proposing to change that, because we see the vast—even though it would be philosophically the appropriate thing to do, we see enor-

mous efficiencies that could be driven from a non-profit corporation with clear stakeholders of interest involved, particularly the government, the Department of Defense. Of course, we would have to have that.

Senator MANCHIN. Mr. Bolen?

Mr. BOLEN. The amount of money being generated today from industry is less than what the FAA costs. It seems to me as we go forward we are going to have to make decisions on whether we are going to raise industry taxes, and you can call them user fees, you can call them rates, you can call these charges, or taxes, it does not matter, it is all the same thing—forced payments from the industry to fund the system which have to go up or the size of the system has to come down, or as has been discussed, we can borrow the money. We can give bonding authority.

I think if we are going to do that, we would need to know pretty clearly what are we going to borrow, what are we going to get for it, when is it going to be available, how are we going to pay that back, and who is going to pay that back.

As I said before, the authority to tax was said by the First Chief Justice of the Supreme Court to be the power to destroy, and we are very concerned about that.

We have heard some of the press announcements that have been made in the past about people who have suggested that, and the goal of cost shifting has been part of that. It remains a concern.

Senator BLUNT [presiding]. The gentleman's time has expired. Ms. Klobuchar followed by Mr. Schatz, Mr. Booker, and Mr. Markey.

**STATEMENT OF HON. AMY KLOBUCHAR,
U.S. SENATOR FROM MINNESOTA**

Senator KLOBUCHAR. Thank you very much, Senator Blunt. Thank you. Welcome back, Senator Dorgan. It is good to see you.

I actually was at the Canadian Embassy last night with the premier of Ontario and talking about some of their funding, and Senator Blunt and I have been in Canada talking about how they have handled transportation projects.

I will be honest, our focus has been a bit more on highways and bridges and how they have been able to have the private sector finance those projects over the long haul, and have some stake, that they are still publicly owned in the end.

Could you tell me, those of you who are experts on how this works with a model with air traffic control, if it is the same model, and how they do this in Canada with the FAA? Obviously, there are concerns that some of my colleagues have expressed about the effect this would have on smaller airports, on public safety, and other things.

I wonder how NavCanada compares to what they have done with their roads and bridges and some of that, which I found a pretty interesting model to look at.

Mr. Rinaldi?

Mr. RINALDI. Thank you, Senator. I will not call myself an expert on this, but I have been researching with NavCanada, along with the U.K. and the Australia system.

As far as what I know of the NavCanada system, they have no really reduced services. That would be one of the things I would be deeply concerned about. They moved out of Transport Canada, which was their government structure in the early 1990s. They started to transition about 1994, and it took about 5 years to go through a full transition. It was a big transition that they actually went through, and then stood up their corporation of NavCanada. They established an user fee of all the users in the system.

Senator KLOBUCHAR. Someone else brought up the Delta letter. They talked about a tax increase in the provision of service, cost increases, airports look to make up for lost airport and airway trust fund money. Again, this is a different model, but in Canada. Any comments on that? Anyone?

Mr. SMISEK. I could speak to the U.S. The amount of money that is raised from the tax structure today pays for the entire traffic control system, and contributes additional monies to the operation of the FAA, and we would not propose that would change.

I think the 15 year average of the general fund contribution to the entire FAA today is around \$3 billion, so that with the user fees to run the system initially, there would be certainty with the current level of taxation, a portion of it replaced by user fees, a portion of it retained by Congress. There would be money that would continue to be contributed to the FAA, whether that would go into the AIP or the general fund—

Senator KLOBUCHAR. In this reformed system, would the users be willing to pay more?

Mr. SMISEK. I think certainly from the U.S. airline industry, as you know, Senator, we are one of the most heavily taxed industries today. We are taxed more than alcohol and tobacco, which are sins, and we are not a sin.

We would suggest that perhaps taxation not be increased. I believe over time, personally I believe over time, based on the NavCanada model, that the user fees would actually go down because of the efficiencies, and for example, in Canada, they have gone down by 30 percent.

Mr. BOLEN. Senator, I think from a business aviation perspective, the business aviation community looks dramatically different in Canada than it does in the United States. While they have some large companies up there, they do not have a lot of the small and mid-sized companies operating out of the small and mid-sized communities that we do in the United States.

As Paul mentioned, they do have both user fees and a fuel tax up there, so it is a double tax situation. It is also fundamentally different because in addition to privatizing air traffic control, they also have privatized airports, which have their own associated costs. For a lot of different reasons, we do not believe it is an apples to apples comparison.

Senator KLOBUCHAR. How would smaller airports fare under this model? I guess I would ask the same thing of Senator Dorgan and Governor Engler, just because they are a little familiar with those in their previous lives in their states.

Mr. BOLEN. From my perspective, quickly, we are very concerned about that access to those airports and airspace. Today, I received a letter from the Fargo Jet Center, which obviously has an awful

lot of general aviation operations, they are very concerned that we not copy that model.

What we hear from our members who operate in Canada is a lot of concern about the way it works up there with regard to paying the user fees as opposed to the fuel taxes. It is not nearly as efficient. It creates a costly administrative burden, and they think it has harmed business aviation.

Senator KLOBUCHAR. Governor Engler and Senator Dorgan?

Mr. ENGLER. One of the arguments I would make perhaps goes in the opposite direction, that today we have technology that would allow for more remote airport access services to these smaller airports that we cannot get fully deployed. We are running behind on that. That would be a benefit.

As I look at this, do we like what we have and are we confident we can make it a lot better if we stay the course, and if we want to change, what would that entail. We are getting into some of the debate about what might be in a bill, but I think the questions that are being asked are able to be responded to both by some of the work that the Eno Center has done and other reports we have looked at.

Senator KLOBUCHAR. Senator Dorgan?

Senator DORGAN. I think Mr. Bolen is concerned about the uncertainty, and I understand that. My interest is not in creating a system, and we have offered an approach here that does not have a lot of specifics, we are simply describing why we think we need a structure.

I have no interest in injuring business aviation, general aviation, or small airports.

One of the principal issues here is every major airport in this country has bonding authority, and in every one of your communities, if you have a major airport, they are bonding for investment and so on.

I think one of the significant issues here is to give a new structure bonding capability to be able to build the system in a robust way, and we have explicitly not described an user fee or structure system beyond that, and I think Mr. Bolen—I fully understand his point. I do not have any interest in seeing a system that is going to injure general aviation, business aviation, or small airports, or access to airports for that matter.

Senator KLOBUCHAR. Thank you.

Senator BLUNT. Senator Markey followed by Senator McCaskill.

**STATEMENT OF HON. EDWARD MARKEY,
U.S. SENATOR FROM MASSACHUSETTS**

Senator MARKEY. Thank you, Mr. Chairman, very much. It is good to see the great Byron Dorgan back at Congress.

Last month, along with Ranking Member Nelson, Senators Cantwell, Booker, Blumenthal, I sent a letter to the Department of Transportation asking about airlines' ability to engage in personalized pricing.

Personalized pricing is a practice that would allow an airline to charge different prices to consumers that are trying to buy the same seat on the same flight at the same time. The difference in

air fare would be based on personal information that the airline has collected about the passenger.

I am, and the other members are deeply concerned that if airlines are allowed to engage in personalized pricing, they could discriminate amongst consumers, charging customers different prices based on zip codes, income levels, marital status, or other characteristics.

What if, for example, airlines using consumer zip code information offered special fares to consumers who live in more affluent zip codes to entice them to travel more frequently while failing to provide these same discounts in lower income areas?

Mr. Huerta, the FAA publicly refused last year to determine whether price discrimination based on income level, marital status, or trip purposes would constitute unreasonable discrimination. I believe that practice is discrimination. What can you tell the Committee today? Will the FAA revisit that determination?

Mr. HUERTA. First of all, Senator, to clarify, economic regulation and oversight is an authority held in the Office of the Secretary at DOT, not in the FAA. We can certainly get you a response for the record.

Senator MARKEY. I think that is important for the Committee.

[The following response was supplied to the Committee:]

On August 6, 2014, the U.S. Department of Transportation approved the International Air Transport Association (IATA) Resolution 787. The Department's approval did not include permission for airlines to engage in personalized pricing, nor did it endorse or approve a business model that would require consumers to divulge personal information in order to shop for airfares. Rather, it was contingent on stringent privacy protections, including a requirement that consumers' ability to shop anonymously must not otherwise be undermined. Further, the order stated that the implementation of any data standard that asks a passenger to voluntarily supply personal information is subject to the airline's privacy policy. Failure of an entity to follow its privacy policy for the sharing and storing of personal information is a violation of the statutory prohibition against unfair and deceptive practices and unfair methods of competition.

Senator MARKEY. Mr. Smisek, your airline, would you discriminate based upon income status or marital status or trip purpose?

Mr. SMISEK. Sir, if what you are describing is a new distribution capability at IATA, which is a technological advance for the ability of airlines to offer to third parties additional services that the customers cannot get today, I do not view that—not only do I not view it as discriminatory, I view it as pro-consumer.

Senator MARKEY. What I am asking you is are you going to use marital status—

Mr. SMISEK. No, sir. We have no desire or intent of doing anything like that. What the new distribution capability is to do, for example, if you are a premiere member at United Airlines buying through a third party site, today, if you bought directly from us, directly on www.united.com, you would be able to get an economy plus seat for free, but if you are buying through a third party, we do not know your loyalty status because of the technology in existence today, and we are not able to offer that ability to upgrade for free, which requires you to book through the third party and come back to www.united.com and get your upgrade.

Senator MARKEY. All I am really trying to clarify is that you will not be using income status or marital status, zip code information in any way to make any of these—

Mr. SMISEK. Senator, United Airlines has no desire to discriminate against anyone.

Senator MARKEY. That is very helpful. Thank you, sir. We have heard recent reports about cybersecurity threats that air travelers face. One security researcher claimed to hack into the airline's control systems through the entertainment system, changing the direction of the plane.

I am concerned about recent claims that the Wi-Fi on planes lacks basic security and that makes it easy for hackers to spy on customers using the network.

Let me first ask about hacking into airplane controls. I know Chairman Thune earlier asked Administrator Huerta about the FAA's efforts, so let me turn to you again, Mr. Smisek. What is American Airlines doing to prevent hacking into the vital controls of your airlines?

Mr. SMISEK. Sir, I am not sure what American Airlines is doing, but I will tell you that United Airlines is—obviously, any form of cybersecurity issue is of great concern to us, sir.

I will say we are cooperating with the FBI because of an allegation with respect to one of our aircraft was involved. We are unaware of whether or not this is possible. The original equipment manufacturers, at least from what I understand, have stated this is not possible today. However, I think what we need is as an industry to take any threat seriously. There are clear firewalls between a Wi-Fi system and any kind of control of the airplane.

Senator MARKEY. Has United taken efforts to secure the wireless—

Mr. SMISEK. Absolutely, we have.

Senator MARKEY. Are your customers protected against data breaches while they are using the United Wi-Fi system?

Mr. SMISEK. We provide the most robust protections that we can, sir, but I will tell you based upon data breaches of corporations worldwide, allegations of the Chinese military involvement, I do not think anybody can honestly—

Senator MARKEY. I am only talking about someone in the plane at 30,000 feet using your Wi-Fi system. Are those consumers on that plane protected against data hacking?

Mr. SMISEK. We have protected them to the best of our ability, sir, and we have robust protections particularly with respect to the flight safety of the aircraft.

Senator MARKEY. And the data protection of the customers?

Mr. SMISEK. Yes, sir; as best we can.

Senator MARKEY. Thank you.

The CHAIRMAN [presiding]. Thank you, Senator Markey. Senator McCaskill?

**STATEMENT OF HON. CLAIRE McCASKILL,
U.S. SENATOR FROM MISSOURI**

Senator McCASKILL. Thank you. It is not clear to me how much of this is money and how much of this is management. Does anybody want to put a percentage on which is which? Is 90 percent of

this a lack of stable funding and 10 percent management? What do you think, Governor Engler?

Mr. ENGLER. I will take a shot at it because I do not think it is knowable, but going to the National Academies' report, which I think is objective, and you know, smart people that Congress mandated to look at this, they raised a lot of management questions. Management is kind of strategic thought leadership, where are we going, what is the architecture.

It is that kind of management of a process and the design, and then money, I think there is no question. I would say it is 50/50.

Senator McCASKILL. It is interesting. I do not know how we ensure we get better management by just changing the structure. Look at the U.S. Postal Service. Look at Amtrak. These are all examples of things we have done that are structures where we have tried to do something other than the traditional "this is an inherently government function and the government is going to do it."

Mr. ENGLER. I would say look at FedEx.

Senator McCASKILL. Those are privatized for-profits. Are we advocating going to for-profits?

Mr. ENGLER. No.

Senator McCASKILL. If that is the case, my rural airports are totally hosed.

Mr. ENGLER. No. We are not saying that, but I think the private non-profit corporation in my mind, when I look at some of the decisions that were made in other countries and how they have approached it, to me, they offer the kind of flexibility.

Remember, the FAA is still a rule setter here. They are still the boss, but now, in the hands of a private company—one of the things on the funding side, Mr. Bolen said bonding, you know, is a euphemism for borrowing, of course it is. The markets today, you can borrow capital at almost no cost, anybody would do this and just go build it. You get tremendous savings by being able to make your investment now.

You could probably do the build out, I do not know, in three years, would it be all done?

Senator McCASKILL. Should we do this? I am listening to you and I am hearing highways. We are all thinking about highways right now.

Mr. ENGLER. I am with you, I did that as a Governor.

Senator McCASKILL. We do not have a bill and the highway funding runs out in about 10 minutes, we still do not have a hearing or a bill on highway funding. Should we do this for our highway system? Should we go to a not-for-profit organization for our highway system? What about our waterways? What about locks and dams? Should we go to a not-for-profit corporation for that?

Mr. ENGLER. Some of the port authorities are actually maybe analogous to that. Indiana did it on highways. Ohio has done something similar. We have certainly done it on bridges in some cases. The Mackinac Bridge is run by an authority, actually.

Senator McCASKILL. It seems to me that if we could do better on the funding part, if we would all acknowledge that in fact bonding is debt, but we need to do it for our infrastructure or we need to do something for our infrastructure. We are short-changing our

country in a dramatic fashion when it comes to infrastructure, and that includes our airways.

That is the majority of the problem. I am skeptical and I know Senator Dorgan shares some of my skepticism because he was in a front row seat as I have tried to be about turning over inherently government functions to private corporations because he did groundbreaking hearings on some of the abuses in Iraq with the contracting we did for inherently government functions that went badly awry and wasted billions of dollars.

I just do not think a new structure is the silver bullet. I am open to this. I do not mean to sound like this is a terrible idea, but it seems to me that what we are trying to do is put a Band-Aid on a cancer which is the inability of Congress to step up to the plate and do the mandated hard job of finding the resources to fund infrastructure.

Mr. ENGLER. If you will indulge me for 10 seconds, I will tell you, I got into this initially by looking at how it is that we can explain to the Federal Government that there is a better way to do capital budgeting, and I do not want to get us off on that track.

I believe strongly there ought to be a capital budget at the Federal level, but absent that, are there ways to think about how you solve big critical infrastructure questions, and this is a discrete one, and if we had funded this when we first started talking NextGen, bonded for it and built it, it would have been all done, we would have been using it.

We talked to the Administration about this when TARP was being talked about. Hey, let's get this done, you could have it done by the time you are running for re-election. That was not an option they chose. The Secretary of Transportation and both parties in the past have supported this, the Administration and both parties have supported this. There is a lot of history here.

I think this one lends itself, and I would like to see the Committee seriously consider it and then validate a concept, which I think you have astutely jumped ahead, and are there other applications, you bet. I think there are a ton of them.

Senator McCASKILL. It would become irrelevant.

Senator DORGAN. If I might just respond briefly, you asked a question that is really important about the issue of management versus funding. I will admit that I think there are management issues and have been for some long time, and I have been watching as Chair of the Aviation Subcommittee and other venues what is happening for a long time.

I think were it not for the funding issue, I probably would not be at this table with this message. I honestly think it is naïve to believe that the funding issue is going to change and that somehow the Congress, who this year, by the way, is going to cut \$365 million from the facilities and equipment account of Mr. Huerta.

It is unbelievable to me. That will probably be magnified by another sequestration and maybe a couple of continuing resolutions and who knows. You cannot build what we want to build for this country and retain leadership opportunities in this critical area of technology of air traffic control with this approach.

That is why I have come to the conclusion that we need restructuring of the type I described.

Senator McCASKILL. Thank you.

The CHAIRMAN. Thank you, Senator McCaskill. Senator Blumenthal has returned, so he is up next, followed by Senator Daines.

**STATEMENT OF HON. RICHARD BLUMENTHAL,
U.S. SENATOR FROM CONNECTICUT**

Senator BLUMENTHAL. Thanks, Mr. Chairman. Thanks for having this series of excellent hearings and to all of you who are before us today. The chairman mentioned earlier that you were a very efficient panel, and you are also a very distinguished and informative one, and I want to thank you for being here.

I was interested as a rider of Amtrak as well as a flier in some of the reports last week in the wake of the Philadelphia tragedy about potential price-gouging among airlines, and the derailment obviously was a horrific event, and I know you join me in expressing our sympathies to all the loved ones and all who were affected.

I wonder, Mr. Smisek, as an executive for United Airlines, can you confirm whether these reports are valid, whether they have been exaggerated, if the FTC were to look at these fares, what would they conclude?

I just want to mention that a \$2,309 flight from D.C. to LaGuardia would be an example of potential price gouging, and I want to advise that I am not asking you because I am pointing to United Airlines in any way or form as potentially one responsible or accountable. I am just asking you as an informed airline executive.

Mr. SMISEK. Thank you. I would be happy to respond. Let me express my condolences to the families and loved ones of those killed in that terrible tragedy of Amtrak.

Absolutely not, sir, speaking for United Airlines, we would never take advantage of an opportunity like that, if you viewed it as an opportunity. No one would do that.

It is true that as people book closer into a flight, the ticket prices tend to go up because that inventory, as you know, evaporates every time a flight takes off without someone in that seat. That inventory disappears. Therefore, that inventory is priced more toward last minute business travelers who tend to have a willingness to pay more because they are traveling on business.

When you have a tragedy such as Amtrak, you have a sudden rush of demand for the very few remaining seats in those high inventory buckets; those prices are high, but we would never raise prices in connection with a tragedy.

Senator BLUMENTHAL. You would attribute any increase in prices to just—

Mr. SMISEK. Those are last minute fares in an open inventory reserved for business travelers, for people booking at the last minute. What we saw was certainly a surge in demand for tickets, and the only available inventory was the last minute business inventory.

Senator BLUMENTHAL. Mr. Rinaldi, did you have a comment?

Mr. RINALDI. On the ticketing? No.

Senator BLUMENTHAL. I would join you in the strong feeling that that kind of price gouging would be utterly reprehensible, and if there is any indication, certainly I will call on the FTC to inves-

tigate promptly, as perhaps this committee would have a role as well.

Mr. SMISEK. Sir, I would join you in that call.

Senator BLUMENTHAL. Thank you. Speaking of that derailment and the aftermath when rail transportation was stopped, I think we saw in the reaction among passengers in rushing to the airlines that the lack of adequate rail transportation has an impact on the airlines. These systems are all interconnected. The present air transportation system can become so congested that it simply cannot serve all of the riders who are diverted from rail.

I would ask the panel whether you have any observations on the importance of rail in assuring adequate and efficient airline transportation, simply in providing a necessary link that relieves the congestion in the airlines.

Mr. HUERTA. Senator, certainly from our standpoint as an agency of the Transportation Department, we work very closely with our colleagues across all of the modal agencies to ensure that we have connections and linkages, and that the system is being appropriately managed as a total system.

One of the things that we have been very focused on is how do we link modes of transportation together, and a lot of that as you well know is rail access to airports to ensure that there is a seamless transportation network that spans many modes of transportation, but clearly, there is a relationship.

Senator BLUMENTHAL. Finally, I have one last question for maybe Governor Engler and Senator Dorgan. The need for investment in these systems seems so apparent, even obvious to us, and we have a virtually full room here.

The public still does not seem to be mobilized, and this Congress seems to be divided. Do you have some advice based on your political wisdom and experience on how we do better to raise awareness and generate support? Obviously, both of you have long-standing experience.

Mr. ENGLER. Privatization is tough, but I do have one observation, that it makes little sense to try to build railroads in the desert in California when we have a Northeast Corridor that we truly ought to make the premiere showcase corridor for passenger rail and separate passenger rail from freight rail on the Corridor, maybe bringing in some of the ambitions in other parts of the country while we fix the corridor that matters the most would be my thought on that.

I would also suggest the subsidization costs of different modes, one of the things you heard from Mr. Smisek and I think maybe everyone on the panel today, air has been pretty good about paying its own way, and has been pretty heavily taxed. That is not necessarily the case with rail and transportation, while states have been willing to raise fuel taxes, we know that form of tax is coming to an end at some point, and there is a need for a solution.

I am hoping that we can get, Senator, into the broader question of tax reform and buy ourselves maybe a few years while we sort out how we are actually going to fund highways and bridges and reconstruction in the country. That is a big unmet need.

Senator DORGAN. You know, I do not know that I can offer you much advice except to say we have painted ourselves into a fiscal

policy corner. We have a dozen years or more that we have not paid for and we have so much—I chaired the appropriations panel on energy and water, we had \$60 billion of authorized water projects, and \$2 billion a year appropriations. This stuff does not add up.

It is true in transportation. It is true in a wide range of areas of infrastructure.

I just think we have to do better on fiscal policy and make investments in the country if we are going to have the kind of country we want in the future.

Senator BLUMENTHAL. Thank you. I want to thank all of you again, and Mr. Rinaldi, I want to thank the extraordinary work by our air controllers across the country, most especially in Connecticut. I met with a number of them earlier today. They are often unappreciated and unclaimed heroes of our air transportation system, so thank you for being here today.

Mr. RINALDI. Highly trained, highly skilled professionals and they love their job.

Senator BLUMENTHAL. Thank you. Thanks, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Blumenthal. Senator Daines?

**STATEMENT OF HON. STEVE DAINES,
U.S. SENATOR FROM MONTANA**

Senator DAINES. Thank you, Mr. Chairman. I have some questions that relate to rural America. The Chairman represents South Dakota. I have the privilege of representing the state of Montana. For states like ours, connectivity is so important to grow our economies.

Broadband connectivity has allowed us to build world class technology companies now that are close to fly fishing streams and mountain ranges, and it is the way to attract and retain some of the best talent in the world, and frankly, to build great companies.

The other part of connectivity is air service. It is a requirement to build a world class company to have accessibility to good air services.

For Administrator Huerta, as you continue to examine potential air traffic control modernization reforms, I would strongly encourage you to first focus on rural community interests when considering any changes.

As we look at our states, not only do we have the ability to grow great technology companies now because of the quality of life, but also a lot of our energy deposits, our future energy sources, are going to be in places that are a long way away from urban areas. Certainly Senator Dorgan sees that in North Dakota, and I see that in Montana and other places.

Programs like Essential Air Service, the Contract Tower Program, and the Airport Improvement Program are critical to rural states like Montana. In fact, the Montana airports are very concerned. We are hearing that the proposed changes to air traffic control will harm the AIP program specifically. I encourage you to undertake consultation with all stakeholders.

What specific remedies, Administrator Huerta, can the FAA provide to rural airports as it considers reforming the air traffic control program?

Mr. HUERTA. Senator, I think you have asked a very important question. It is something that as we have this longer term discussion of investment and structure that everyone understand that the aviation system, and the grant program, and the aviation structure of the United States has always been about achieving twin objectives.

First, to have an efficient system that serves the largest number of passengers, and second, to provide a level of access to communities throughout the country.

In previous reauthorizations, that has always been a matter of great debate, as you well know, between members of Congress about how to achieve that balance.

That challenge and issue does not go away under any structure, nor does any structure alone deal with what those issues are. What you are raising is an important public policy question of where we as a nation are going with respect to ensuring a highly efficient system and the ability to invest in modernization of that system while at the same time ensuring some level of access.

That debate, I think, is foundational to what we need to be looking at in a reauthorization, and we need to answer that question before we can really answer the question of what is the best structure that enables us to get there.

There are other questions as well in terms of how we capitalize, how we pay for what we are looking for, and longer term, how we ensure that we are keeping those twin objectives in balance.

Senator DAINES. Let me go to a similar issue. I was part of building a great technology company in Montana, and we had a great airport, the Bozeman Airport, the busiest airport in Montana, in fact. I ran the Asia Pacific division of the company from Bozeman, Montana. I am bouncing across the water thanks to connectivity with airlines.

I want to step back and ask Mr. Smisek, as you look at global systems, with a great airline like United Airlines, in the air traffic control systems used by other countries, what do you see from some of these countries, something we can learn to apply best practices, improvements in our systems going forward here that will make the U.S. system better?

I realize there are scalability questions, if we look at North America and the United States' air space, but can you share some comments that you might want to interject in the record here of how we can make our system better based on what other countries are doing?

Mr. SMISEK. I would be happy to, Senator. Thank you. What we are looking for in this opportunity is to provide technological improvements that will improve throughput, reduce the time that travelers sit on a runway waiting to take off, reduce the incidences of circling airports waiting to land, reduce congestion, reduce fuel burn.

We believe the technology is absolutely scalable. Let's use NavCanada. I think NavCanada is one of the best in the world, and I believe Mr. Rinaldi would agree they have the most advanced

technology, the most productive workforce, the happiest air traffic controllers. I think those are all true things.

[Laughter.]

Mr. SMISEK. Even happier than yours and they are pretty happy, and by the way, someone mentioned these were the unsung heroes. We sing their praises daily because we deal with them daily and they are very professional and expert.

Getting back to NavCanada, it is indeed smaller, but air transport is handled by sector, and you know from your own history, technology scales magnificently. I think there are tremendous opportunities.

As we fly around the world, there are some systems that are better than others. There are some foreign countries that handle it well and others that do not. We are very focused on not only maintaining where we are and where we are in safety for sure, but improving the efficiency of this system because this system—even though we are a global carrier, this system disproportionately affects our operational reliability, our customer satisfaction, our fuel burn.

If we get it right, and we have the opportunity to get it right, we can have a huge step forward in the efficiency of the system, in the value of the system to the United States, the economy, and to consumers.

This is a tremendous opportunity for us, and this is the system we focus on the most because this is where we actually have not only a vast majority of our assets and our flights, but also this is an opportunity for the United States of America, where we are citizens, and United Airlines is a citizen of the United States, to provide the best air traffic control system in the world.

Senator DAINES. I am out of time. I will say for the flying public, go on something like Flight Aware and see all the traffic in the air at any given time across the United States. It is humbling. Grateful for what we have here. The number you used, Mr. Rinaldi, 130 million?

Mr. RINALDI. Yes, 132 million.

Senator DAINES. These are impressive numbers, and it always keeps us aware of the importance of the system today.

Mr. RINALDI. Just one second to address your first question, if I may. Status quo, we have a lot of talk about rural America and the airports, I think status quo is one of our biggest concerns for rural America and the airports.

If you look at what the FAA tried to do under sequester in 2013, they looked at 238 air traffic control towers, they shut them down because they did not have funding. The majority of those were contract towers, but also were FAA towers, the majority of them are in rural America. That is one of our biggest concerns, about status quo.

Senator DAINES. Thank you for looking out for rural America, I appreciate that.

The CHAIRMAN. I thank the Senator from Montana for looking out for rural America. I think he and I would probably both agree that at the end of this we would like to see more direct flights to and from South Dakota and Montana. Is that right?

[Laughter.]

Senator DAINES. Very much so, Mr. Chairman. I associate myself with your comments.

The CHAIRMAN. I think we have run out of questioners. I do appreciate very much the panel's great remarks today. Different perspectives. This is really kind of the Senate's first foray into this issue of reform, and obviously we have to figure out a way as we move toward reauthorization of doing what is best.

I think we have the same goal in mind, and as was pointed out, sometimes maybe slightly different perspectives about how best to get there. I do think one of the things that was raised, stability of funding, is an important one. I think that is something in the current budgetary environment that we find ourselves in today as increasingly challenging.

I think there is an openness to look at models that might better cope with that issue as well as some of the other issues that were raised today.

Thank you all very much, and the hearing record will stay open for 2 weeks for members to submit questions, and if you could respond in a timely way to those questions, it will be most appreciated.

This hearing is adjourned.

[Whereupon, at 12 p.m., the hearing was adjourned.]

A P P E N D I X

PREPARED STATEMENT OF MIKE PERRONE, NATIONAL PRESIDENT, PROFESSIONAL AVIATION SAFETY SPECIALISTS

The Professional Aviation Safety Specialists, AFL-CIO (PASS) represents approximately 11,000 Federal Aviation Administration (FAA) employees in five separate bargaining units throughout the United States and overseas. The largest PASS bargaining unit is comprised of employees from the Air Traffic Organization (ATO). This bargaining unit includes systems specialists from Technical Operations who install, maintain, repair and certify the radar, navigation, communication and environmental systems making up the air traffic control system in our country; aeronautical information professionals in Mission Support Services (MSS) who develop, maintain and support instrument flight procedures and a variety of aviation products that enhance industry performance and efficiency in the airspace and on the ground; and Flight Inspection Services (FIS) pilots, mission specialists, operations staff and aircraft maintenance employees who are responsible for the airborne inspection of ground-and space-navigation systems to ensure the integrity and safety of the instrument procedures, airways and operational navigation systems that make up the National Airspace System (NAS).

PASS appreciates the opportunity to present our views regarding issues related to reform of the FAA. The following statement includes PASS's position that a lack of a stable, consistent funding stream is a significant issue currently facing the FAA; the importance of ensuring the FAA remains a cohesive unit of Federal employees; and our concerns with privatizing any portion of the air traffic control system that is the world's standard.

Commercial aviation contributes more than \$1.5 trillion to the U.S. economy each year in addition to providing over 11 million jobs. As Congress considers legislation to reauthorize the agency, addressing a stable funding stream for the FAA should be a priority. In April 2013, when sequestration took effect, impacts were felt throughout the NAS. Flights across the country were delayed as a result of reduced maintenance and loss of system redundancy; cutbacks in funding for spare parts impacted the repair and maintenance of air traffic control equipment; aviation safety inspectors were prevented from overseeing commercial and general aviation industries; manufacturing inspectors were not inspecting aviation mechanics, facilities, training programs and equipment; and registration certificates were not issued for U.S. civil aircraft and airmen. Furthermore, training was suspended at the FAA Academy in Oklahoma City, forcing employees to fall behind on training essential to performing their jobs to the best of their ability. The FAA is just now recovering from the impacts of the 2013 sequestration.

While PASS recognizes that FAA funding must be addressed and that this may involve some restructuring, we are concerned that any major overhaul of the FAA that privatizes any functions or services either through a for-profit or not-for-profit company has the potential to negatively impact agency operations. Our country has the safest and largest aviation system in the world and it defies logic to believe that major changes to this intricate system will not at a minimum present major challenges. With any structural changes, unintended consequences and unforeseen circumstances are inevitable, which is a gamble this country should be unwilling to take.

Another concern regarding privatization of air traffic control services is whether it is legal. The Congressional Research Service (CRS) released an analysis on April 10, 2015, specifically noting that the establishment of a private, non-profit corporation to provide air traffic control services may raise specific and consequential constitutional issues.¹ More definitively, the CRS concluded that such a corporation

¹ Congressional Research Service, memorandum to the Honorable Peter A. DeFazio, Ranking Member of the Committee on Transportation and Infrastructure, "Analysis of Constitutional Issues," April 10, 2015.

Continued

may be constitutionally suspect because of potential violations of the nondelegation doctrine, Fifth Amendment Due Process issues and infringements on the executive power. Essentially, the construction of a privatized model threatens to subject the structure of the public's air traffic system to legal questioning and wrangling, which could ultimately lead to its unraveling. This is not a risk worth taking.

In addition, progress in NAS modernization has been made over the past several years and changing the structure at this point could threaten that progress at a time when modernization is essential. While proponents of privatization point to lack of progress with the Next Generation Air Transportation System (NextGen) as a reason to privatize the Air Traffic Organization (ATO), PASS points to the variety of accomplishments and milestones successfully reached by the agency in establishing a stable platform for full modernization. Advancements are continuing in the following areas, among others:

- Installation of new systems and equipment, including the En Route Automation Modernization System (ERAM), which has been implemented at all 20 en route centers.
- Optimization of Airspace and Procedures in the Metroplex (OAPM) to promote greater efficiency throughout the country in Texas; Memphis; the Washington, D.C., region; New York/Philadelphia and Boston; Central and Southern Florida; Southern and Northern California; Chicago and Cleveland/Detroit; Seattle; Denver; Las Vegas; and Phoenix.
- Integration into the NAS of more than 14,000 Performance-Based Navigation (PBN) procedures, including 713 Required Navigation Performance (RNP) procedures.
- Continued upgrading and standardizing of terminal automation by transitioning to the Standard Terminal Automation Replacement (STARS) platform at more than 150 Terminal Radar Approach Control (TRACON) facilities throughout the country.
- Advancing data and voice communications capabilities, with Data Communications clearance trials currently taking place with plans for deployment at 56 airports starting in 2016.
- Continued work on the NAS Voice System, which will further the advancement of voice communication capabilities and allows the transfer of voice services from one facility to another.
- Ongoing collaboration between the FAA and stakeholders as well as operators to prioritize implementation of NextGen initiatives and smooth the transition.

Ensuring that the men and women who perform this vital work remain Federal employees is of fundamental importance in maintaining a safe and efficient NAS. These employees include Technical Operations systems specialists who install, maintain, repair and certify the complex systems that make up the NAS. These Federal employees are extensively and specifically trained on a variety of interconnected, specialized systems and equipment in order to fulfill the responsibility of protecting aviation safety. For example, system certification, the process in which a certificated FAA systems specialist checks and tests systems or equipment on a periodic basis in order to ensure that the systems or equipment can be safely returned to service and not negatively impact any aspect of the NAS, has been deemed inherently governmental by the FAA.² The FAA's certification process has been successful for decades and is a key element in maintaining the safest and most efficient air transportation system in the world. At more than 340 facilities nationwide with over 70,000 certifiable systems and equipment, FAA systems specialists are the only individuals with the clearance, authority, skill and expertise to perform this work to keep the system safe.

PASS also points to last year's incident in Chicago as further proof of the essential work of these Federal employees. Just over two weeks after a fire was deliberately started by a contract employee targeting vital aviation communications systems and equipment at the Chicago Air Route Traffic Control Center, the facility reopened for full operations thanks to the tireless efforts of FAA employees. On the day of the incident, systems specialists and other safety professionals at the FAA launched into action providing whatever assistance necessary to address the full loss

¹Issues Arising from a Proposal to Authorize a Federally Chartered Private Corporation to Provide Air Traffic Control Services," April 10, 2015.

²Manager, General Law Branch, AGC-110, memorandum to Manager, Maintenance Engineering Division, ASM-100, "Contractor Certification of Navigational Systems in National Airspace System (NAS)," June 18, 1991.

of communications at the Center. Across the region, in Cleveland, Indianapolis, Kansas City and Minneapolis, systems specialists quickly ensured backup systems responded and air traffic remained safe. In the days that followed, in Chicago and other locations, Federal employees went above and beyond to make sure the aviation system remained safe and functional.

In addition, Flight Inspection Services (FIS) professionals and aeronautical professionals in Mission Support Services (MSS) support pilots, air traffic controllers and aviation planners through the development and maintenance of all public instrument flight procedures and airways. These responsibilities include developing, maintaining and assuring the integrity and safety of flight procedures to support NextGen advancement in the NAS. The development, implementation, flight inspection and maintenance of flight procedures requires the proper interpretation of a complex series of computations, measurements and modeling standards, strict compliance with diverse criteria, extensive coordination with multiple stakeholders, and the frequent adaptation of procedures in a constantly evolving aviation environment. FAA specialists oversee the NAS in order to make sure everything aligns safely and is working efficiently, which should clearly remain a function of the Federal Government. Thanks to these employees and other safety professionals at the FAA, the United States enjoys the safest air traffic control system in the world.

Proponents of privatization consistently point to models in other countries as sources of inspiration for this country to emulate. PASS warns against making such comparisons as no aviation system can compare in size and scope to that which is operating in this country. These models operate at a fraction of the size in terms of number of travelers and overall size of their airspace, with the United States surpassing any other country in terms of air traffic control operations and management. There really is no comparing this country's aviation system with any other aviation system in the world.

Finally, there are some proposals related to FAA reform that include separating the Air Traffic Organization (ATO) from the other lines of business within the FAA. This is a concerning proposition since the ATO Safety Management System (SMS) is inextricably intertwined with the agency's other lines of business. For example, communication and sharing of information and resources within the agency, including between the ATO and the Office of Aviation Safety (AVS), are essential to allow the agency to seamlessly perform work necessary to ensure safety every step of the way. It is likely that the requirement that the FAA's safety office interact with a private corporation concerning regulation of air traffic control will create bureaucratic dysfunction, delays and unexpected costs. Furthermore, proponents have not indicated how the remaining parts of the FAA would be funded, and PASS is concerned that support and funding of the remaining Federal agency could be placed at risk if the ATO is a separate entity. The FAA must remain one cohesive unit in order to allow all FAA employees to continue working together for the benefit of the world's foremost aviation system.

The United States stands at the forefront of the aviation world. Our country's air traffic control system is an important and extremely valuable public asset that is critical to our Nation's economy. Today's FAA employees are proud, dedicated and focused on the public good when they perform their jobs. They have been rightfully classified by the U.S. Department of Transportation as "safety critical" because the duties they perform "have a direct and immediate impact on public health and safety, the protection of life and property. These positions require the highest degree of trust and confidence."³ FAA employees, as government employees, answer only to their customers, their only stockholders: the American people.

There is no debate that sequestration, operating under multiple continuing resolutions, 23 FAA reauthorization extensions during the last reauthorization cycle, and government shutdowns resulted in negative impacts on the NAS that resonated nationwide. PASS asks that members of Congress work together to consider funding alternatives that provide a stable, long-term funding stream for the agency, including allowing the FAA the flexibility to transfer funds among accounts as needed, advanced appropriations or a multiyear budget cycle. Other solutions may involve removing the FAA from the appropriations process. With this, the funding mechanisms currently supporting the FAA would likely require revisions to ensure an adequate funding stream.

PASS thanks the Committee for considering our views, and we look forward to working with the Committee on the FAA reauthorization legislation.

³Department of Transportation, "DOT Order 3910.1D: Drug and Alcohol-Free Departmental Workplace Program," Appendix A, p. A-1, October 1, 2010.

PREPARED STATEMENT OF THOMAS L. HENDRICKS, PRESIDENT AND CEO,
NATIONAL AIR TRANSPORTATION ASSOCIATION

Chairman Thune, Ranking Member Nelson, members of the Commerce Committee, thank you for the opportunity to submit comments for the record on the Committee's review of air traffic control reform. My name is Thomas L. Hendricks and I serve as President and CEO of the National Air Transportation Association (NATA).

NATA represents the interests of the general aviation business community before the Congress as well as federal, state and local government agencies. Representing nearly 2,300 aviation businesses, NATA's member companies provide a broad range of services to general aviation, the airlines and the military. Our members range in size from large companies with international presence to smaller, single-location operators that depend exclusively on general aviation for their livelihood. Smaller companies account for the majority of NATA's membership and most of our members have fewer than 40 employees and are designated as small businesses by the U.S. Small Business Administration.

We understand the major reauthorization issue the Committee must address this year is whether and how we might alter the FAA's organization and funding stream. This is certainly an appropriate discussion to have in light of the recent sequesters, government shutdown and criticisms of the FAA's modernization plans. As the Committee looks at this very important issue, NATA shares many of the core reauthorization principles outlined by FAA Administrator Huerta—particularly the need to maintain our system's excellent safety record. I have had the opportunity to captain passenger aircraft all over the world and I can tell you that there is no air traffic control system in the world that compares with ours, and certainly nowhere else in the world that compares with the challenges of managing the airspace in the U.S. northeast corridor. While we should support the injection of more private sector practices into the FAA, it is important how we manage any changes to the agency in order to maintain a stable, safe and efficient system that protects access for all users of our system. We should begin by determining whether the issues identified as needing reform can be addressed within the current construct.

NATA believes the Committee should build on its excellent work begun in the last reauthorization and continue to assist the agency toward a more efficient operating structure. We believe it is possible to develop and deploy cutting-edge technology within the government structure and this is already occurring at the FAA. But, like other stakeholders, we believe more remains to be done. As Administrator Huerta has noted, the FAA must continue to foster a culture of innovation and efficiency. So if the question is whether the agency can efficiently deploy and certify cutting-edge technology, then let us provide the agency with the flexibility it needs in order to make that happen.

In a discussion I had with one of the leading proponents of an alternative ATC structure, I identified another government agency that develops and deploys cutting edge technologies. The response was a horrified, "The FAA could never manage programs that way, it can't fire people!" While somewhat humorous, it begs a larger question. Will an alternative air traffic control structure really be able to operate more efficiently? Compensation is the number one driver of air traffic control costs and of the approximately 35,000 employees that would presumably move to a new air traffic control organization, are they the ones from where efficiencies will be derived? Or will it inadvertently create a situation where costs will not in fact be controlled and the travelling public saddled with new and ever increasing fees?

One of the benefits of the current authorization/appropriations process is the agency's accountability to the taxpayer. I cannot think of any government agency that does not want its money without strings from Congress and I have never known an era where government spending was not described as "constrained." When pressed for what is not being funded in modernization, the grudging response is that new technology is being deployed and that is certainly something to which I can personally attest as a user of the system. Of course, industry is then told the central issue is not modernization funding *today* but in the *future* while also being reminded that other aspects of the FAA suffer as a result of budgetary tradeoffs. NATA believes that before accepting this at face value, one must ask—is the agency doing everything it can to operate at its most efficient? If not, what additional authorities does it need to achieve that goal?

Certainly, the FAA, as well as other agencies of the Federal Government that depend on discretionary funding, has been impacted by the budget impasses between Congress and the Administration. Experience tells us though that there is a limit to which discretionary spending can be reduced. In fact, it was the inability to bring to the House floor a transportation appropriation bill that resulted in the Ryan-Mur-

ray budget deal that has provided us with stable FAA funding for the past few Fiscal Years. A user-fee funded agency is not necessarily exempt from sequestration. So again, should the Congress consider changes to the current funding stream or instead provide the agency with a clear, unambiguous exemption from the impacts of sequestration and government shutdowns?

Further, we cannot underestimate the potential impact of separating air traffic from the agency's safety functions. Administrator Huerta recently observed that breaking down stovepipes means close interaction between the operations and safety functions of FAA. Turning the FAA's safety organization into a solely regulatory body, including overseeing operational standards, creates potential unintended consequences that might undermine many of the efficiencies that would come from a new air traffic control structure.

Finally, we must discuss the potential risks to America's general aviation community, including the investment and jobs created by the members of NATA. Recently, eight general aviation associations, including NATA, unveiled a new industry-wide study detailing the economic contributions of general aviation to the Nation. That study, conducted by PricewaterhouseCoopers, determined that general aviation supports 1.1 million total jobs and supplies \$219 billion in total economic output in the United States.

Reform to the FAA's management structure and funding could put that investment and those jobs at risk. We understand that our Nation's air traffic control system was not built primarily with the general aviation fleet in mind. While we do not challenge what drives the construct of the system, it is certainly the one within which general aviation must operate and requires us to be a voice at the table of any discussion and not just a sole voice, but rather one that includes the many segments of our industry.

Just as important is general aviation's contribution to the system's operation. Clearly, general aviation is an incremental user of a system built for other users. We cannot think of a more efficient method for capturing general aviation's use of the system than the current system of excise taxes. What we fear is what transpired in Canada, the collection of new user fees while still being saddled with old taxes—double taxation. And we cannot have it both ways, claiming the current discretionary funding situation drives this debate while not acknowledging how difficult it will be to pull those revenues out of the current budget construct.

If we eventually conclude the challenges to the agency cannot be addressed in its current construct, then we urge the Committee to be very deliberate in what comes next. NATA cannot support any de facto "leap of faith" proposals that would put general aviation's fate in the hands of undefined management structures or leave unresolved its contribution to the system. We are particularly concerned by Business Roundtable's corporatization proposal—what we view as a classic example of logrolling. Entirely funded via user fees and controlled in perpetuity by a board of industry insiders, general aviation would find itself in constant peril and the traveling public paying ever increasing fees.

Chairman Thune, Ranking Member Nelson, members of the Committee, thank you for your consideration of our views. While maintaining the status quo risks our Nation's supremacy in aviation, it is equally true that radical change to the FAA's management structure and funding poses equal risks, including to the safe and stable nature of the world's best air traffic control system. We look forward to working with the Committee and assisting the agency toward a more efficient operating structure.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN THUNE TO
HON. MICHAEL P. HUERTA

Question 1. Administrator Huerta, the National Research Council's recent report on NextGen recommended that expectations be reset for NextGen along with a number of other recommended improvements. How is FAA responding to this report? Do you agree with the findings?

Answer. The Next Generation Air Transportation System (NextGen) was envisioned as a complex modernization effort that was necessary for the Nation to maintain the safest and most efficient air transportation system possible for generations to come, adaptable to growing demand by increasing capacity and reducing delays. It is important to remember that the NextGen vision examined by the National Research Council (NRC) was a multi-agency view of the future including both operational and research partners. As such, it included both near and mid-term expectations as well longer term—stretch goals to serve as a basis for advanced research. The FAA's commitment to that vision, as an implementing agency, is found in the

FAA's NextGen Plans and the Mid-Term Concept we produced to which we are still substantially aligned.

The FAA's NextGen implementation objectives are delivering benefits through improvements that include saving time and fuel, and reducing emissions. The improvements deployed by NextGen to date have already delivered nearly \$1.6 billion in benefits by upgrading our infrastructure, creating more efficient procedures, and delivering advanced technologies. In addition, NextGen has made significant progress in areas such as infrastructure, surveillance, navigation, information, separation standards, and decision support tools.

The FAA is responding to this report by continuing to work closely with industry to achieve high standards, remain nimble, and have flexibility. We will also continue to work with our cross-government partners on their implementations and research that extend and refine the far-term expectations.

Question 2. As we consider potential air traffic control reforms, we are examining a host of studies indicating safety and service have not been negatively affected by separating air traffic control services from direct government control in other countries. As part of a possible transition in the U.S., what are some of the key issues you believe should be addressed?

Answer. Congress' consideration of a new FAA governance structure raises many important issues that would need to be addressed to best ensure that the Nation's and public's interests would continue to be served, and that the U.S. would retain its global leadership in aviation, operating the world's safest, most diverse, most complex, and most efficient aviation system.

Studies on the transition from one type of governance to another in other nations indicate that it could take years to effectively and totally separate air traffic control functions. This could prove even more challenging in the U.S. given the size and complexity of our aviation sector compared to other nations. Some of the complexity of a transition would involve defining new processes, roles, and responsibilities that may have not been included in establishing legislation.

In evaluating whether to depart from the existing air traffic control service model and what a new model would look like, while not exhaustive, some of the issues that would need to be addressed include:

- Funding issues including how the existing mix of taxes and revenues would be divided between a new entity and the remaining FAA; the transition to a user fee structure; the charges that general aviation (GA) would pay; source and structure of airport funding; and dealing with budget instability and uncertainty for the residual FAA.
- Safety oversight of a new entity and integration of new entrants in the national airspace
- Governance of the new entity and roles of stakeholders on oversight boards, if any
- Maintaining security and linkages with the Department of Defense and Department of Homeland Security
- Retaining a global leadership position in aviation
- Ensuring good stewardship of the environment
- Determining appropriate roles and responsibilities in the development of NextGen
- Assigning capital liabilities and assets between the FAA and a new entity
- Development of new processes (*e.g.*, new air traffic route development) that currently require coordination between air traffic and regulatory functions
- Determining the employee and labor protections associated with a new entity
- Establishing new offices for any functions that would be required in both the FAA and the new entity (*e.g.*, human resources)

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. ROY BLUNT TO
HON. MICHAEL P. HUERTA

Question. The FAA has indicated it has made great progress on NextGen over the last several years. However, according to the National Academy of Sciences report released on May 1, 2015 (very recently), it identifies many areas where the FAA is not delivering the promised benefits of NextGen to users of the air traffic system. Specifically, the report states 'the original vision for NextGen is not what is being implemented today. Can you explain the large discrepancy between what the FAA is publicly saying on NextGen compared to the National Academies report?

Answer. The original NextGen vision, Concept of Operations for the Next Generation Air Transportation System, was published in 2007. It is important to remember that this NextGen vision examined by the NRC was a multi-agency view of the future including both operational and research partners. As such, it included both near and mid-term expectations as well the longer term—stretch goals—to serve as a basis for advanced research. The FAA's commitment to that vision, as an implementing agency, has been found in the FAA's NextGen Plans and the Mid-Term concept to which we are still substantially aligned. Throughout this process, the FAA has engaged a broad cross section of stakeholders to include airlines, airports, business aviation, general aviation, other government agencies, and academia. We have engaged our stakeholders in numerous workgroups and committees to collaborate on high-priority, high-value improvements.

Some of our most recent collaboration with our stakeholders are:

- *NextGen Priorities Plan.* A collaborative plan with the NextGen Advisory Committee, delivered to Congress in October, lays out milestones for delivering benefits in the one-to three-year timeframe. This provides early-benefit, high-readiness capabilities to airspace users. The priorities are improvements in Performance Based Navigation, Data Communications, surface and multiple runway operations. We have completed 27 of 27 commitments so far. This builds on previous collaborative efforts with the aviation industry.
- *Global Harmonization:* The FAA has worked collaboratively with partners worldwide to ensure that NextGen capabilities won't stop at our borders. Interoperability and standards setting have been a focus of NextGen planning and implementation.
- *Interagency Planning:* We work with other agencies, including the Departments of Defense and Commerce, as well as the National Aeronautics and Space Administration, through our Interagency Planning Office (and before that, through the JPDO, which established the original vision for NextGen). We work with our cross-government partners on their implementations and their research that extend and refine the far-term expectations.

In some cases, we have decided to adjust our plans as the needs of the airspace have evolved. In addition, flexibility has been necessary because not all technologies and improvements mature at the same time.

Finally, a significant challenge has been funding. The cost differential between what we designed NextGen to achieve and the funding we actually received has been \$3 billion since 2011. A modernization with this many moving parts requires stable and predictable funding, as well as a long-term plan with the flexibility to make incremental updates to adjust to advances in technology and the latest priorities of our industry.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. DEB FISCHER TO
HON. MICHAEL P. HUERTA

Question 1. I have read the concerns expressed by the general aviation community regarding “commercialization” or “privatization” of the air traffic control (ATC) system. Do you believe there is a way for us to reform this system to ensure safety, efficiency, and innovation, while protecting the concerns of general aviation?

Answer.

- The general aviation (GA) sector in the United States has breadth and scope unparalleled elsewhere in the world. It is part of what makes the U.S. aviation sector so dynamic. Certainly one set of the issues involved in separating the air traffic organization (ATO) from the FAA involves the GA community, such as how much GA contributes to funding a new model, and the impact of an FAA structural change on services to the GA community and access to airspace.
- The Administration has not proposed governance changes to air traffic control, and we are not in a position to endorse an approach to resolve these issues. There may be a number of approaches to consider in evaluating these issues ranging from the composition of the new entity's board to Congress legislatively setting a GA fee and service structure. However, financial independence and viability for the new entity would necessitate authority and flexibility to change fees and services, so legislation would need to provide a compromise that preserves GA interests as much as possible while ensuring viability of the new entity. If Congress decides it wants FAA to change how air traffic services are provided, then we will need to work carefully with the GA community as well as

other stakeholders to design a system the continues to ensure safety, efficiency, and innovation.

Question 2. As you know, reforms to the ATC system have been considered by the FAA and Congress previously. In 2007, the FAA released a cost allocation study that helped determine the factors that drive the costs of providing air traffic control services and the allocation of those costs to various users. This 2007 study was used to support policy development for alternative ATC proposals. As we consider reforms to the ATC system in the upcoming FAA reauthorization, can you please commit to providing the Committee with an updated version of the ATC cost allocation study?

Answer. Cost allocations are often quite complex and require policy decisions. As such, any future study should be preceded by substantive discussions with stakeholders. As the assumptions and choices underlying various cost allocation methodologies are reflected in the results, studies designed to reflect different choices would be needed to inform the use of the studies' results. It would be premature to pursue an updated study without input on key assumptions.

Question 3. Administrator Huerta, a recent report by the National Research Council found that the FAA is not delivering what it promised with regard to NextGen. Given the National Research Council's findings, and the real benefits to aviation businesses and passengers from moving to the NextGen system, do you agree that private-sector oriented reforms to our ATC system would help to advance NextGen technology?

Answer.

- Our ability to deploy NextGen technologies and capabilities depends on sufficient funding and commitment from government and service providers, and effective internal collaboration as well as with industry to ensure milestones and goals are met, implemented, and sustained.
- There are a wide variety of air traffic management models in different countries around the world ranging from government owned to fully privatized. I am not aware of any clear data that shows that one particular model is better than another to achieve the necessary modernization of air traffic systems. Running a Fortune-500-size complex enterprise, operating 24 hours a day while undertaking one of the largest, most sophisticated infrastructure projects in the last few decades in modernizing the national airspace system would prove daunting whether in the private or public sector.
- The success of NextGen deployment hinges on interdependencies and relationships within the agency. NextGen is more than installing technology in our air traffic facilities and on aircraft—it involves the close participation of our safety organization to ensure that the technology is safe and that controllers and pilots know how to use it safely. It requires training and equipage within the aviation sector. Therefore, we believe that any decision about changes to governance must take into account these issues.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. RICHARD BLUMENTHAL TO
HON. MICHAEL P. HUERTA

Question. I am a proud sponsor of S. 911, the Saracini Aviation Safety Act of 2015, which would require airlines to install secondary barriers on most commercial aircraft. These barriers would prevent access to the flight deck of the aircraft. The legislation is named in honor of Victor J. Saracini, a pilot killed when terrorists hijacked United Flight 175 on September 11, 2001. The FAA has encouraged and issued guidance on secondary barriers, but the FAA has not mandated their installation. Does the FAA already have the authority to mandate secondary barriers? If so, what prevents the FAA from requiring that commercial airlines install physical secondary barriers, considering the threats we face in aviation?

Answer. Yes, the FAA already has the legal authority necessary to require secondary barriers. However, such a step would require a rulemaking.

Since passenger-carrying aircraft already have reinforced cockpit doors, a requirement put into place as a result of the September 11 attacks, it is unlikely that the benefit of mitigating the very small remaining risk with a secondary cockpit door or other secondary barrier would outweigh the high cost of requiring secondary barriers across the commercial fleet.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. BRIAN SCHATZ TO
HON. MICHAEL P. HUERTA

Question 1. Last year, a radar facility in Aurora, Illinois was knocked offline, exposing a serious vulnerability in our air traffic operations. This outage led to the cancellation of nearly 2,000 flights at a major international hub airport and delays across the country, exposing a lack of redundancy in the system. The FAA must also be prepared to deal with natural disasters. Since 1980, the U.S. has experienced 151 severe weather disasters. In these situations, it is vital that air traffic services are restored as quickly as possible to support response and recovery efforts, as well as to resume commercial flights. How does the FAA typically respond to man-made and natural disaster events to ensure the continuity of air traffic operations? What redundancies are built in place to ensure that the system infrastructure is reliable in the event of an emergency?

Answer. Driven by lessons learned from real world incidents and numerous exercises over the years, the FAA has developed and repeatedly and successfully used a multi-layered approach to respond to and rapidly recover from disasters, supporting the safety and efficiency of the Nation's air traffic operations to the maximum extent practicable.

Operations Contingency Plans: The FAA has implemented a requirement for all of its Air Traffic Control (ATC) facilities, including all tower, Terminal Radar Approach Control (TRACON), and Air Route Traffic Control Center (ARTCC) facilities to maintain Operations Contingency Plans (OCP). These OCPs, which were executed during the September 2014 Chicago ARTCC/ZAU incident, are intended to focus actions to maintain the continuity of affected air traffic services and operations to the maximum extent practicable when the capabilities of a given facility (or facilities) are at risk, degraded, or disrupted.

Communication and Collaborative Decision Making: The FAA utilizes daily a robust traffic flow and communication capability that is orchestrated at the national level at the agency's Air Traffic Control System Command Center (ATCSCC), leveraging input from FAA facilities, airlines and other aviation operators flying in airspace. This capability enables the FAA to quickly coordinate and carry out traffic management initiatives to optimize the flow of air traffic within the NAS due to demand or external factors such as a man-made or natural disaster.

Systems Resiliency: The ATO maintains a wide spanning national infrastructure—to include facilities, air navigation services systems and automation, and the supporting power and environmental equipment. Throughout this infrastructure, the FAA has integrated various resiliency design elements based on risk analyses. Where additional redundancies are required, geographic diversity of systems are implemented to provide backup or overlapping coverage.

Continuity and Disaster Response Exercises: The FAA regularly participates in a broad spectrum of continuity and disaster response exercises at the Federal, State, and local levels, in which the agency validates and identifies gaps in its ability to sustain air traffic operations in the NAS, as well as contribute to interagency efforts to save lives, protect critical infrastructure, and safeguard property.

Question 1a. Does the FAA have a goal of how quickly it will restore air traffic control services following such an event?

Answer. Following the September 2014 temporary loss of the Chicago ARTCC/ZAU cited by Senator Schatz, the FAA established new aviation system restoration targets of a) within 24 hours after a major disruptive incident, recovering to 90 percent of normal full capacity for the affected major airport; and b) within 96 hours after a major disruptive incident, recovery to 90 percent of normal full capacity for the affected en route airspace.

Question 1b. What challenges does the FAA face in adequately preparing for catastrophic events? What steps need to be taken to enhance system resiliency?

Answer. Following the September 24 ZAU incident, the agency evaluated the basic resiliency of its air navigation services infrastructure as part of the 90-day after-action review. While recommendations have been made during the initial review, the FAA is continuing this resiliency effort to more broadly quantify and address possible resiliency improvements. The resiliency characteristics of the FAA's current air navigation services regime ensure safe operations following any given disruptive incident. However, the FAA's new system recovery targets will necessitate resiliency improvements at key facilities, which will, in turn, require future capital investments. Any funding for further resiliency enhancements will be competing with other capital expenditure needs.

Question 2. Currently, air traffic control operations are covered by the Airport and Airway Trust Fund plus General Fund appropriations. At a minimum, those feder-

ally appropriated funds would have to be replaced under a privatized or corporatized model. It is not realistic to assume that efficiency improvements alone would be enough to make up for the loss of these funds, and funds raised through bonds would result in debt that would eventually have to be serviced.

Answer. In the context of FAA reauthorization and the future direction of the FAA, some members of the aviation community and of Congress have discussed making governance changes at the agency.

Question 2a. If the air traffic control system is moved to a separate, self-funding entity, what model would you propose to generate sufficient funds to cover the cost of operations?

Answer. The Administration welcomes the opportunity to evaluate any governance-related proposals and we look forward to having those discussions with Congress and stakeholders.

Further, with respect to reauthorization, some of the major challenges facing the FAA involve funding levels, funding stability, and flexibility. We believe that any governance-related proposals would need to address these issues while ensuring that our Nation continues to maintain the safest and most efficient airspace system today and in the future.

Question 2b. Would it lead to cuts to air traffic controller costs (by reducing salaries, benefits, and pensions), raise user fees, or both?

Answer. We believe that any FAA reauthorization, whether it includes structural change or not, needs to address two key challenges facing the agency:

Reauthorization should provide budget stability including a greater ability to plan and commit resources over the long-term. Budget stability will help ensure our strong participation in the global aviation community and demonstrate our commitment to aviation.

Reauthorization should allow for management flexibility for making business decisions regarding the size, scope, and types of air traffic management services and infrastructure.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. CORY BOOKER TO
HON. MICHAEL P. HUERTA

Question 1. I applaud FAA's work on moving forward multiple NextGen technologies, including En Route Automation Modernization and Automatic Dependent Surveillance-Broadcast. However, the FAA Inspector General and industry stakeholders have been critical of delays and cost overruns in the implementation of NextGen programs. Can you explain how FAA has addressed these criticisms? How can the FAA foster innovation in this area to move implementation forward faster?

Answer. Over the past few years, the FAA has put in place a stronger, more efficient, and more effective leadership model for continuous program improvement. Our efforts, which began with an internal organizational realignment and the designation of a Chief NextGen Officer, continue with incorporation of lessons learned to improve program management processes and robust, proactive stakeholder engagement.

NextGen's success has been characterized by four fundamental approaches that will continue to guide our progress:

- Executing programs to support the infrastructure of NextGen
- Delivering capabilities to benefit users of the National Airspace System (NAS)
- Advancing collaboration with partners in the aviation community
- Examining work done and renewing goals to ensure the initiative remains on the right track

We have in place a comprehensive, cross-agency portfolio approach to program implementation that recognizes NextGen as an integrated effort rather than a series of independent programs. This approach provides a sound framework of milestones and governance driven investment decisions aligned with NextGen strategy, monitors NextGen development and deployment progress, and ensures collaboration and coordination across FAA lines of business.

We have made improvements to the NAS Enterprise Architecture that explicitly identify how and when decision points will impact the delivery of NextGen products. Case-by-case analyses are also carried out to fully understand the relative size, breadth and scope of impacts across programs.

We have developed and refined criteria and processes for identifying high-priority program decisions, which are documented in the NAS Integrated Systems Engineering Framework (ISEF).

Collaborating with our aviation community stakeholders through forums like the NextGen Advisory Committee (NAC) has improved industry's understanding of the complexity involved in implementing NextGen programs. Our recent work in developing the *NextGen Priorities Joint Implementation Plan* has created an environment of mutual understanding of respective challenges. The FAA collaborated with the aviation industry through the NAC in response to a request from the House of Representatives Committee on Transportation and Infrastructure, Subcommittee on Aviation, to develop a plan to implement a number of high-priority NextGen capabilities that will provide significant near-term benefits to NAS users. The plan's foundation was earlier NAC work, which recommended the FAA focus on NextGen capabilities in four areas: Multiple Runway Operations, Performance Based Navigation, Surface Operations and Data Communications. Throughout 2014, FAA subject matter experts met with aviation industry representatives to determine what the FAA is able to accomplish over the next one to three years in the four focus areas and what industry commitments are necessary for those activities to be successful. These meetings enabled the FAA and industry to reach agreement on all of the "high priority, high readiness" capabilities that the NAC has recommended, with the FAA committing to specific site implementation plans and industry ensuring operator preparedness in order to take full advantage of NextGen benefits. Both the FAA and industry are meeting their Plan commitments and continue close collaboration to solve barriers to effective implementation. The FAA has completed all the scheduled commitments due to date, three of which were completed early.

Question 2. In your January 2015 FACT3 report, FAA concluded in the New Jersey-New York area airspace that, "while the ongoing airspace redesign effort and NextGen enhancements will help to improve efficiency and flexibility, FAA sees strong evidence that additional runways may be the best long-term solution to meet future demand for intercity travel to and from the NYC area." If new runway construction at these airports is unlikely to commence in the near future, what else can we do to address this untenable situation before 2030, if NextGen and the airspace redesign are not solutions on their own?

Answer. There are many contributing factors to the flight delay challenges in the NYC area: high demand, tightly coupled traffic flows, complex airspace and limited capacity. As a result, there is no single solution that will address the expanse of operational complexities in the NYC area. Rather, a suite of solutions working in concert is required, including deploying NextGen technologies, airspace redesign, airport capacity enhancement, and slot management.

NextGen is delivering benefits and will continue to do so as new technologies for both pilots and air traffic controllers are deployed throughout the region. Improvements prior to 2030 include tools to de-conflict and streamline traffic flows, improve predictability, and make more efficient use of existing airport and airspace capacities.

Restructuring the New Jersey-New York area airspace will support and maximize the benefits of NextGen improvements in the NYC area. Airspace Redesign efforts in the New Jersey-New York area airspace have already delivered benefits in efficiency, flexibility, and delay reduction. The FAA suspended further implementation of the Airspace Redesign in May 2013 due to funding constraints that limited the FAA's ability to further integrate airspace to the extent envisioned. FAA plans to tailor a solution that will best meet the unique operational and safety needs in the NJ-NY area airspace, leveraging the successful Metroplex model.

The January 2015 FACT3 (Future Airport Capacity Task) report notes that taxiway and gate constraints can be common causes of delays and inefficiencies. Improvements are in progress to address these issues in the NYC area, including re-configuration of the Central Terminal Building at LGA, and the ongoing JFK runway construction is intended to provide high-speed taxiways and accommodate larger aircraft. Although more incremental than new runways, these improvements are achievable in the nearer term and will help to make more efficient use of the existing airfield. The FAA also continues to support more than a dozen reliever airports as well as secondary commercial service airports in the greater New York metropolitan area, including airports in both New York and New Jersey.

Nevertheless, the number of runways at JFK, EWR, and LGA will remain a limiting factor when accommodating long-term NYC area demand. Additional runway capacity is needed, and for this reason the PANY&NJ undertook a comprehensive System Capacity Study for the NY metropolitan area. In the interim, passenger capacity is improving as airlines increasingly use larger aircraft with more seats that are more fuel and cost-effective in addition to needing fewer flights to accommodate

the same or growing number of passengers. However, if new or enhanced runway capacity cannot be achieved, then the NYC airports may have to continue to rely on techniques to address severe congestion-related delays such as slot management currently in effect under temporary Orders limiting operations at JFK, EWR, and LGA. The FAA recently published a Notice of Proposed Rulemaking (public comment period closed on May 8, 2015) intended to provide a longer-term and comprehensive approach to slot management at these airports.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. TOM UDALL TO
HON. MICHAEL P. HUERTA

Question 1. Flight paths and air traffic can be controversial issues locally. While I believe that NextGen has value, I am concerned about how it will impact local communities.

I strongly urge the FAA to make sure it is working with local residents to keep them informed of changes to the air traffic control system and the impact these may have on their communities. This is an area where pre-emptive communication goes a long way.

What outreach activities with local communities does your agency currently engage in for NextGen? Do you feel these are sufficient? Are there any other efforts underway?

Answer. The FAA has been focused on the implementation of the foundational programs that will enable full NextGen capabilities. For example, we recently completed the ground infrastructure that supports ADS-B and the replacement of the En Route and Terminal automation systems that are the backbone of the air traffic control system. With the foundational work nearing completion, we are transitioning to the implementation of transformational tools and capabilities that will provide the full benefit of NextGen.

From the perspective of local community impact, implementing the NextGen foundational infrastructure such as the replacement of automation systems like ERAM was transparent from a local community perspective. However, as we continue to implement new procedures and new technology, we fully recognize the need for stakeholder outreach and local community engagement. For example, during Metroplex projects, local communities are provided information on process and progress during the various stages of each project.

During the first two phases (study and design) of each Metroplex project, the leading FAA project teams communicate with airports and stakeholders via monthly or quarterly meetings. These meetings inform the stakeholders and allow them to communicate information to local communities as necessary. During the third phase (evaluation), affected communities are updated directly through environmental workshops, during which local stakeholders are able to provide input. The public response is gauged to determine the frequency and location of additional workshops to meet community and project needs. In the implementation phase, news stories announce related activity, and during the final phase (post-implementation), benefits stories are developed by the FAA. Based on recommendations from stakeholders through the NextGen Advisory Council, the FAA is strengthening its outreach and education activities by developing a formal outreach process that engages airports and communities from the beginning of a project.

Question 2. The Department of Defense has expressed concerns about how a possible new air traffic organization entity would coordinate services with DOD and ensure that national security remained a top priority. New Mexico has two air force bases and a missile range. I am concerned about the impact any reform could have on our local operations. How do the FAA and DOD currently coordinate? How might that interaction work best between two government agencies?

Answer. Under current authority, the FAA Administrator is obligated, among other things, to consider the requirements of national defense, regulate civil and military operations in the airspace, and consult with the Secretary of Defense to establish areas in the airspace determined necessary in the interest of national defense.

Over the years, an extensive, complex network was established for civil/military coordination and cooperation, which facilitates problem resolution at the appropriate level as required. The network operates effectively through agreements and the exchange and interaction of personnel.

The DOD is focused on ensuring that military services have sufficient airspace to meet military, training, and test and evaluation requirements for peacetime, contingency, and wartime operations. Airspace designated for military purposes, when not required by the DOD, is made available to the FAA for civil use. DOD cooperates

with the FAA for the effective and efficient management of the National Airspace System.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN THUNE TO
HON. JOHN ENGLER

Question 1. As you may know, a legal memorandum by the Congressional Research Service was recently made public that outlined certain constitutional concerns with separating the Air Traffic Organization from the FAA. What is your assessment of the legal issues that might arise from making a transition to a new governance structure, and how might they be addressed?

Answer. The memo raised important concerns that should be addressed in any enabling legislation. However, it appears the authors of the memo were unclear on a central concept related to the creation of a new, not-for-profit entity to operate the air traffic control system. That is that the new ATC entity should be required to perform air traffic control services in accordance with performance standards and other rules and regulations promulgated from time to time by the FAA. The new entity would not set the regulations; it would apply the regulations that are promulgated by the FAA just as airlines apply the regulations of the FAA with respect to the use of electronic devices on board. The new entity's conduct falls squarely within the "ministerial" exception to the private non-delegation doctrine.

Similarly, the new entity would not have enforcement power. When there are infractions, the new entity would report the infraction to the FAA, which would then decide if and how enforcement is undertaken.

Finally, as is a common practice with government-sanction monopolies (like electric utilities), all of its fee assessments would be appealable to the DOT or some other governmental entity.

Question 2. How might a new air traffic control organization finance and acquire the billions of dollars of existing air traffic control facilities, infrastructure, and equipment? Why would a new model be better than the way the government currently finances such facilities?

Answer. As far as transferring existing assets to the new entity, the enabling legislation will need to determine whether the new entity should pay a fee to acquire the assets and, if so, who should set that fee. The Secretary of Transportation may be best positioned to make such an assessment.

As for financing of future facilities, infrastructure and equipment, the new entity would possess many advantages over the current system.

Today, the Federal Government finances multi-year capital investment programs through annual appropriations. This model is not followed by most state governments nor by the private sector, and for good reason. When massive programs, which are predicated on a particular long-term funding expectation, collide with inconsistent and unpredictable Federal appropriations, as illustrated by the recent sequester, the result is a jagged mismatch of funding and program needs in every single year and a constant acceleration and then dead-stop of program implementation. And there is no room or budget authority to buffer this mismatch with funds from the operating budget, which is already overextended keeping obsolete systems operational. The FAA's top priority will always be to maintain and operate the current system. That is why systems being installed today incorporate technology specified a decade ago, and these will already be outdated when NextGen comes fully online, hopefully in 2025.

Under the proposed model, technology investments would be guided by an organization that is committed to consistent, incremental technology improvements. Technology development would be predictably financed—because the entity would be able to issue bonds in the capital markets—with assurance that all systems would be compatible and incorporate proven state-of-the-art technology.

Question 3. How does a standalone, commercialized air traffic control model address concerns about funding stability, continuity of operations, and the confidence among users regarding prospects for accelerating NextGen benefits in a way that cannot be achieved by more reforms within the government?

Answer. As noted in my previous response, the current system is unpredictable. The new funding system would be designed to be inherently stable. It would be funded by user fees to cover operating and financing costs, and capital expenditures would be funded through bonds issued in the capital markets. This would enable new technology, such as NextGen, to be more quickly built-out and delivered at a predictable date.

Question 4. What are the implications of reform for smaller rural airports, which may or may not have any commercial air service? Why is reform beneficial for small and rural communities?

Answer. Under the current system, smaller and rural airports are the first to see services cut when budgets are tight. For example, under the recent sequestration, in March 2013 FAA proposed to close 149 contract towers which were providing air traffic control services to smaller and rural airports. While Congress acted to avert the closures in special legislation, the fact remains that in a tight budget, these are the first services likely to be cut—not because they are unimportant, but their closure is simply a quick way to generate cash.

Under a potential not-for-profit operator of the new system, as discussed in the hearing, the new entity would have multiple bottom lines defined in the enabling legislation. Profitability should not be the only bottom line. One of those missions should be to maintain and expand access to air traffic control services. This could be easily achieved under the new model. A commitment to remote tower technology (currently outside the budget capability of the FAA) and other technical innovations would increase operational capacity, stimulate economic development, and improve safety for smaller and rural airports across the country.

The new proposed model is a boon for small communities.

Question 5. Approximately how long might the transition to a new air traffic control model take? What are some of the lessons learned from the transition experience in other countries around the world to ensure smooth and seamless transition?

Answer. We expect a transition would need to be built into enabling legislation that might last for two years, with distinct milestones to be achieved during the transition period. The transition could be handled largely the way a major corporation would handle the spin-off of a major division. The most important aspect would be to identify the new leadership and exactly which assets would transfer to the new entity.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. DEB FISCHER TO
HON. JOHN ENGLER

Question 1. I have read the concerns expressed by the general aviation community regarding “commercialization” or “privatization” of the air traffic control (ATC) system. Do you believe there is a way for us to reform this system to ensure safety, efficiency, and innovation, while protecting the concerns of general aviation?

Answer. Yes, and we would support doing so. Business Roundtable does not support privatization of the system as that word is generally understood. Specifically, the creation of a for-profit corporation to run the system would be detrimental to users, particularly to the general aviation sector. That is why the proposal under discussion is to create a federally-chartered not-for-profit entity to operate the system, with FAA continuing to regulate the system, ensuring safety. This separation of operation and regulation into two separate entities is now considered a best practice internationally for maintaining the safety of air navigation systems. The enabling legislation for this new, not-for-profit entity, should ensure that one of its core missions is to maintain and expand access to air traffic control services—not limit those services to those with the greatest ability to pay. Further, we believe there are ways the legislation could ensure that general aviation does not see a significant change in the overall amount of financial support it is required to provide to maintain the ATC system. *Finally, general aviation should also be represented on the board governing the new entity, ensuring that this mission is achieved, and the board should be designed to ensure that no one user group—including airlines—would be represented by a majority of the board.*

Question 2. In your written testimony, you noted that the U.S. has lost its global leadership in aviation because we are falling behind when it comes to our air traffic control system and the technology we use. Can you provide the committee with some examples of how technology has advanced in private sector oriented ATC systems?

Answer. The Canadian system, the second-largest air traffic control system in the world which is operated by a not-for-profit corporation, NavCanada, provides the best example. Touch-screen automated route tracking technology developed by NavCanada is now sold around the world, while U.S. controllers are still printing paper strips inserted in little plastic holders passed from controller to controller to keep track of each plane in the sky. Also, NavCanada is a principal investor and lead strategic partner in the Aireon satellite-based ADS-B technology, which the FAA has not been able to afford to embrace. NavCanada, like U.S. corporations that are technology-driven service enterprises, value incremental technology improve-

ment. Because of the nature of the U.S. Federal procurement system, the FAA is stuck making generational leaps every twenty to thirty years, and those leaps tend to fall short of the mark.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. BILL NELSON TO
HON. JOHN ENGLER

Question 1. How would a new entity ensure that there is continued service to small communities and rural areas?

Answer. Under the current system, smaller and rural airports are the first to see services cut when budgets are tight. For example, under the recent sequestration, in March 2013 FAA proposed to close 149 contract towers which were providing air traffic control services to smaller and rural airports. While Congress acted to avert the closures in special legislation, the fact remains that in a tight budget, these are the first services likely to be cut—not because they are unimportant, but their closure is simply a quick way to generate cash.

Under a potential not-for-profit operator of the new system, as discussed in the hearing, the new entity would have multiple bottom lines defined in the enabling legislation. Profitability should not be the only bottom line. One of those missions should be to maintain and expand access to air traffic control services. This could be easily achieved under the new model. A commitment to remote tower technology (currently outside the budget capability of the FAA) and other technical innovations would increase operational capacity, stimulate economic development, and improve safety for smaller and rural airports across the country.

The new proposed model is a boon for small communities.

Question 2. A recent report by Congressional Research Service (CRS) indicated that the creation of a private non-profit corporation with the ability to set user fees, appoint leaders, and control the national airspace may be unconstitutional. How do you respond to those findings?

Answer. The memo raised important concerns that should be addressed in any enabling legislation. However, it appears the authors of the memo were unclear on a central concept related to the creation of a new, not-for-profit entity to operate the air traffic control system. That is that the new ATC entity would be required to perform air traffic control services in accordance with performance standards and other rules and regulations promulgated from time to time by the FAA. The new entity would not set the regulations; it would apply the regulations that are promulgated by the FAA just as airlines apply the regulations of the FAA with respect to the use of electronic devices on board. The new entity's conduct falls squarely within the "ministerial" exception to the private non-delegation doctrine.

Similarly, the new entity would not have enforcement power. When there are infractions, the new entity would report the infraction to the FAA, which would then decide if and how enforcement is undertaken.

Finally, as is a common practice with government-sanctioned monopolies (like electric utilities), all of its fee assessments would be appealable to the DOT or some other governmental entity.

Question 3. Congress is actively involved in exercising oversight to ensure that the U.S. air traffic control system is the safest in the world. What degree of oversight do you envision Congress exercising under your proposal?

Answer. As noted in my response to the previous question, the FAA would retain responsibility for insuring the safety of the airspace and, as a government agency, be accountable to Congress. What is being proposed is that a non-profit entity provide air traffic control services, regulated by the FAA. This would meet international standards for the separation of the operator from the regulator, eliminating the conflict of interest inherent to the current government-run structure.

Question 4. What would be the role of Congress in setting user fees? If there is no role for Congress, how can we be assured that the Board will not assess fees in a manner that functionally limits access to certain users or groups?

Answer. While the new non-profit entity would set user fees for air traffic control services, there should be a mechanism in any enabling legislation that would allow users to appeal to the Secretary of Transportation or another appropriate government entity if the fees are unreasonable. Further, Congress may find it appropriate to exempt certain user groups—such as noncommercial general aviation—from paying user fees.

Question 5. The national airspace is a national asset; will the Board be obligated to ensure that all users continue to have access to it?

Answer. As noted in my earlier responses, the new non-profit entity would be responsible for providing air traffic control services, regulated by the FAA. Any enabling legislation should make clear that the new entity not be able to discriminate in its provision of services based upon whether a given aircraft is a small private plane or a Boeing 747 operated by a major airline.

Question 6. What is the amount of Federal funding that you believe would be required to stand up a new air traffic control entity? At what point would this new entity be self-sustaining? How long would Federal funding for air traffic control be required and how much funding do you anticipate would be required?

Answer. The new entity should set user fees so that it is self-sustaining as soon as any congressionally mandated transition period is complete.

Question 7. Congress was very concerned by proposed contract tower closures in the wake of sequestration. We worked hard to ensure that towers would remain open, in spite of funding challenges. Wouldn't a new entity most likely consolidate towers (and, therefore, close towers) to save costs?

Answer. *No. Please see my response to your first question.*

Question 8. Under your proposal, would the new entity be required to buy air traffic control facilities and assets from the FAA? If so, with what funds? Would it be responsible for disposing of properties that are no longer needed and any remediation required to do so?

Answer. As far as transferring existing assets to the new entity, the enabling legislation will need to determine whether the new entity should pay a fee to acquire the assets and, if so, who should set that fee. The Secretary of Transportation may be best positioned to make such an assessment. If a purchase price is required, the new entity will have more than adequate borrowing capacity at very attractive rates for paying such purchase price.

Question 9. Does your proposal contemplate annual funding for airport development grants? What amount do you anticipate being available each year? Would that funding come from user fees or another source of funding?

Answer. Enabling legislation would need to ensure that Airport Improvement Grants remain funded at the current level. We believe this can be achieved largely through continuing the Federal Government's current average contribution from the general fund to FAA and AIP.

Question 9a. Would the new ATO entity, under your proposal, follow Federal acquisition practices? If not, what acquisition practices would be followed to ensure that there was fair and open competition?

Question 9b. Would there be a process for unsuccessful bidders to protest contract awards? What forum would have jurisdiction over such claims?

Question 9c. The FAA must comply with Presidential directives, constitutional standards, public laws, and DOT Secretary Policy Statements to promote, expand, and aggressively provide procurement opportunities for small businesses, small businesses owned by socially and economically disadvantaged individuals, women-owned small businesses, and service-disabled veteran owned small businesses. Would a private entity follow those same principles and adopt similar set-asides to encourage small business development and contract awards to businesses owned by women, service-disabled veterans, and socially and economically-disadvantaged individuals? Would the new entity follow Buy American preferences?

Answer. One of the greatest benefits of this proposal is to get the air traffic control system out from under the current Federal acquisition process, which is badly broken. The Canadian system, the second-largest air traffic control system in the world which is operated by a not-for-profit corporation, NavCanada, provides the best example. Touch-screen automated route tracking technology developed by NavCanada is now sold around the world, while U.S. controllers are still printing paper strips inserted in little plastic holders passed from controller to controller to keep track of each plane in the sky. Also, NavCanada is a principal investor and lead strategic partner in the Aireon satellite-based ADS-B technology, which the FAA has not been able to afford to embrace. NavCanada, like U.S. corporations that are technology-driven service enterprises, value incremental technology improvement. Because of the nature of the U.S. Federal procurement system, the FAA is stuck making generational leaps every twenty to thirty years, and those leaps tend to fall short of the mark.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. BRAIN SCHATZ TO
HON. JOHN ENGLER

Question 1. Currently, air traffic control operations are covered by the Airport and Airway Trust Fund plus General Fund appropriations. At a minimum, those federally appropriated funds would have to be replaced under a privatized or corporatized model. It is not realistic to assume that efficiency improvements alone would be enough to make up for the loss of these funds, and funds raised through bonds would result in debt that would eventually have to be serviced.

If the air traffic control system is moved to a separate, self-funding entity, what model would you propose to generate sufficient funds to cover the cost of operations?

Question 1a. Would it lead to cuts to air traffic controller costs (by reducing salaries, benefits, and pensions), raise user fees, or both?

Answer. The new non-profit entity would be funded by user fees to cover operating and financing costs and capital expenditures would be funded through bonds issued in the capital markets. This would enable new technology, such as NextGen, to be more quickly built-out and delivered at a predictable date. The Canadians are the best example of another system that has followed this model. Efficiencies delivered under this model have enabled them to better compensate employees and deliver higher-tech services while reducing real user fees over time.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN THUNE TO
HON. BYRON DORGAN

Question 1. Senator Dorgan, some argue that a significant air traffic control reform effort is not necessary and that government-focused changes are sufficient to improve the air traffic control system. But more than 15 years ago, Congress made a substantial change that gave the FAA broad relief from Federal personnel and procurement rules. What are the major impediments that have prevented the FAA from utilizing these authorities to achieve faster progress on NextGen's programs?

Answer. What we found through our work with the Eno Center for Transportation NextGen Working Group was that while the FAA was given the authority to be exempt from Federal personnel and procurement rules, in practice the FAA did not take advantage of this authority. A GAO report from 2003 ("National Airspace System: Reauthorizing FAA Provides Opportunities and Options to Address Challenges") concluded that this was both because the FAA improperly managed implementation, and also because other government agencies with oversight roles acted as a barrier to full implementation.

Question 2. As you may know, a legal memorandum by the Congressional Research Service was recently made public that outlined certain constitutional concerns with separating the Air Traffic Organization from the FAA. What is your assessment of the legal issues that might arise from making a transition to a new governance structure, and how might they be addressed?

Answer. The CRS memorandum is based on the premise that the new entity would be "establishing air traffic control procedures, similar to those currently existing in FAA Order JO7110.65V". This would mean that the new entity would be making the rules, while simultaneously operating the system. This, however, is not what has been proposed. What I, and stakeholders proposing bold reform, envision for a reform air traffic control system, is that the new system will be comprised of two entities. The first entity would be the new provider, which will operate the system. The second entity would be the FAA, which will regulate the operator from a safety standpoint. We do not want a system where the new regulator creates its own rules. The rule-making process is a governmental prerogative and should remain so.

It will always be necessary to ensure that any new governance structure complies with all legal issues, and these should not be taken lightly. But compliance can certainly be accomplished within a reformed air traffic control structure, including the ones we have proposed.

Question 3. How might a new air traffic control organization finance and acquire the billions of dollars of existing air traffic control facilities, infrastructure, and equipment? Why would that model be better than the way the government currently finances such facilities?

Answer. This new organization would finance itself, similar to airports. It would issue bonds that would be paid over time by the revenues it would collect from its customers. This model would be a significant improvement to the one currently in place. This new entity would allow capital planning over several years, instead of the current system where the FAA relies on annual appropriations from Congress that may or may not come in time, and are unpredictable in times of fiscal con-

straint. For example, FAA recently finished the deployment of a long awaited new computer system, the En Route Automation Modernization (ERAM), which replaced the 40-year old HOST system. ERAM was \$370 million over budget, from which \$40 million can be attributed to the budget sequester. With proper capital planning, those costs overruns due to budget uncertainty will be less likely to happen.

Additionally, this model would be better for at least one other reason. The current model depends on annual Congressional appropriations, which creates an incentive for the FAA to only request funding for projects that are most likely to get funded, regardless of their effectiveness in improving safety or efficiency. In a new model like what we envision, where the stakeholders have a strong role in governing the system, projects would be chosen not be chosen because they are more likely to be funded by Congress, but because it would make sense to the national airspace system and its users to implement those projects.

Question 4. How does a standalone, commercialized air traffic control model address concerns about funding stability, continuity of operations, and the confidence among users regarding prospects for accelerating NextGen benefits in a way that cannot be achieved by more reforms within the government?

Answer. As the Mineta Commission stated in 1997, the FAA has “too many cooks”—USDOT, White House, Congress, etc.—making accountability and authority “too diffused to run a 24 hour-a-day, high technology, rapidly changing operating system for a major commercial industry”. That is unlikely to change if air traffic control remains part of FAA. By being a standalone entity, regardless if a government corporation or a nonprofit organization model is selected, the air traffic control provider will have the ability to focus on its core mission of providing safe, efficient, and cost-effective, air traffic control to commercial airlines, as well as business and general aviation, instead of having to dedicate a significant portion of its resources to please all these “cooks”.

Question 5. Approximately how long might the transition to a new air traffic control model take? What are some of the lessons learned from the transition experience in other countries around the world to ensure smooth and seamless transition?

Answer. How the transition takes place and how long it takes must be negotiated between the different parties involved, including the new provider, the FAA, and Congress. Three things that should be thoroughly considered beforehand are 1) whether the FAA has a safety regulation structure in place to effectively oversee the safety of the system, 2) how to transition from financing from the Airport and Airway Trust Fund to user fees (in Canada, for example, user fees were imposed after two years), and 3) how employees are moved from Federal workers to the new entity.

Lessons from other countries show us that we need to ensure that all relevant parties are involved in the transition process. Everyone will have different expectations as to what the system should look like after it is created. That is why the stakeholder involvement we propose for the governance of the system is so important. By having users governing the system, the transition can be made smoother.

For example, in the Eno NextGen Working Group Final Report we discuss the case of Canada. In this case, the main transition issues identified regarded the culture change required of the management cadre inherited from government and in the high wage expectations of certain labor groups. The first issue resulted from differences in the new corporate culture at NAV CANADA, which as an independent company was different from the government institution it replaced. Negotiated retirements and layoffs, along with the ability for some employees to return to the public sector, helped ameliorate this problem. As for the demand for salary increases, this was a result of a number of years without them under Transport Canada, the government agency that was responsible for air traffic control, much like the FAA is today in the United States. In fact, one of the reasons unions were in support of the move to a non-profit model was because their salaries had been frozen for a number of years. When NAV CANADA was created, unions began demanding salary increases to make up for those years. The good financial situation of NAV CANADA following its creation allowed for deals to eventually be reached with the unions.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. DEB FISCHER TO
HON. BYRON DORGAN

Question 1. I have read the concerns expressed by the general aviation community regarding “commercialization” or “privatization” of the air traffic control (ATC) system. Do you believe there is a way for us to reform this system to ensure safety, efficiency, and innovation, while protecting the concerns of general aviation?

Answer. Yes, I do believe that is possible. First of all, both the Federal Government and general aviation will play a role in the governance of the air traffic control provider, protecting the public interest, namely of those communities where general aviation is essential. As we envision a governance system where no single stakeholder will have the majority, the presence of general aviation and the Federal Government will help shape the development of the air traffic control system going forward. The FAA and Congress could also intervene, where necessary, by regulating the air traffic control provider and mandating certain minimum requirements of operation that it must comply with.

Moreover, an independent air traffic control provider would likely be better suited to offer new technologies that would increase services available to general aviation users. For example, the independent Swedish air traffic control provider is already operating “remote towers,” where a tower in an airport control traffic in more than one airport, using high-definition cameras and other technologies to offer these services remotely. The Irish and German systems have also recently awarded contracts to implement remote towers in their countries. This technology allows air traffic control services to be offered where it would otherwise be uneconomical to offer them (hundreds of airports around the Nation do not have any sort of air traffic control built on site). The FAA is testing this technology in Virginia in a pilot project, but many of these types of FAA pilot projects never leave the prototype stage, either because the FAA lacks the resources or the nimbleness to implement them. With an independent provider, it is more likely that such innovations could be offered that could ultimately expand services available to smaller and rural communities.

Question 2. Senator, in your written testimony you compared the FAA’s ATC system to the Federal Railroad Administration, noting that the FRA does not provide dispatching services for freight and passenger trains, but has a core mission of focusing on safety. Could you explain how, not only efficiency and innovation, but most importantly the mission of safety might be compromised due to our current ATC system?

Answer. First of all, we have to thank the men and women at the FAA that made the current national airspace system the safest in the world. This is a tremendous achievement that should never be downplayed. However, we should not rest on our laurels, we should make sure that we are able to maintain and improve these amazing levels of safety going forward.

One way in which other countries have done so is by separating the provision of air traffic control from its safety regulation. This has shown to improve accountability, eliminate conflicts of interest by having the same entity regulating itself, allowing both the provider and the safety regulator to focus on their core mission. In fact, ICAO, the UN agency for international aviation, has, since the early 2000s, recommended this functional separation as a way to improve safety outcomes. A recent study commissioned by the FAA and produced by MITRE, concluded that “the separation of the [ATC provider] from the CAA [Civil Aviation Authority] was reasonably successful” and that “MITRE did not discover any views that the system prior to separation was preferred.” An increased focus on safety, from both regulator and the ATC provider, was found to be one benefit that the separation provided. By creating a standalone ATC provider, while retaining the FAA as the safety regulator, we would be achieving this very important goal of separating these two functions.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. BILL NELSON TO
HON. BYRON DORGAN

Question 1. Would a non-governmental air traffic control provider ensure that there is continued service and access to small communities and rural areas?

Answer. Under all circumstances, any air traffic control structure in the U.S. would need the Federal Government to play a role in the governance of the air traffic control provider. The Federal Government has and will continue to have a role as the guarantor of the public interest. As such, such critical decisions as removing service from certain communities would most likely have to be made with agreement of the Federal Government. The FAA and Congress could also intervene, where necessary, by regulating the air traffic control provider and mandating certain minimum requirements of operation that it must comply with.

Moreover, an independent air traffic control provider would likely be better suited to offer new technologies that would increase service in small communities. For example, the independent Swedish air traffic control provider is already operating “remote towers,” where a tower in an airport control traffic in more than one airport, using high-definition cameras and other technologies to offer these services re-

mately. The Irish and Germany systems have also recently awarded contracts to implement remote towers in their countries. This technology allows air traffic control services to be offered where it would otherwise be uneconomical to offer them (hundreds of airports around the Nation do not have any sort of air traffic control built on site). The FAA is testing this technology in Virginia in a pilot project, but many of these types of FAA pilot projects never leave the prototype stage, either because the FAA lacks the resources or the nimbleness to implement them. With an independent provider, it is more likely that such innovations could be offered that could ultimately expand access to smaller and rural communities.

Question 2. The United States has historically treated the airspace as a national asset, ensuring access to communities of all sizes and all users. Do you believe the air space should continue to be treated as a public resource? If so, how would you ensure that all users continue to have equal access to the airspace if air navigation service resources are no longer allocated by an impartial, governmental entity?

Answer. We have numerous types of “public resources” in this country. Few, however, are managed and regulated by government entities. Most essential public resources, such as water, communications, or electricity, are managed and put into the market by private entities. Governments regulate these providers to ensure access to communities of all sizes and users. The national airspace is one of the few public resources that is not only regulated by the government, but also managed by government—with the very same entity both regulating and managing operation. This is highly unusual in this country and around the world.

A non-governmental national airspace provider would continue to be regulated by the government to ensure access to airspace, which would be guaranteed just as it is today; FAA would regulate airmen and airplanes, and make the rules to say who can and cannot access the airspace. It would also regulate the air traffic control provider, who would have to provide the services for anyone that is certified to access controlled airspace.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. BRIAN SCHATZ TO
HON. BYRON DORGAN

Question 1. Currently, air traffic control operations are covered by the Airport and Airway Trust Fund plus General Fund appropriations. At a minimum, those federally appropriated funds would have to be replaced under a privatized or corporatized model. It is not realistic to assume that efficiency improvements alone would be enough to make up for the loss of these funds, and funds raised through bonds would result in debt that would eventually have to be serviced.

If the air traffic control system is moved to a separate, self-funding entity, what model would you propose to generate sufficient funds to cover the cost of operations?

Answer. The new provider would be able to fund itself by charging airspace users, like airlines, directly. This would replace the current system, where the users are not charged directly. Instead, the current system is funded by indirect taxes (like the jet fuel tax) and by the passengers, who pay the 7.5 percent ticket tax, among others. Some Federal funds would still be required to enable the parts of FAA that would remain in the Federal Government—everything except the air traffic control system—to function. This would include, at a minimum, all safety regulation as well as the Airport Improvement Program. According to our working group’s analysis of air traffic control systems around the world, fees levied on airspace users by the new provider would be sufficient to cover the costs of the system including any debt necessary for future expansion and technology upgrades.

This move to direct payments would bring a number of benefits. First, it would ensure that the air traffic control providers would have a stable and predictable funding stream. Second, there will be a connection between the cost of providing air traffic control and the fees the airlines have to pay. For example, today four airplanes carrying 200 people in total might pay as much (depending on the ticket prices) to the system as one airplane carrying the same 200 people, but naturally the cost to control four airplanes is much higher than controlling a single one. By moving into a system where costs are aligned with user fees, there is an incentive for efficiency, for both the air traffic control provider and the airlines.

While Eno’s working group has not proposed any specifics about the user fees, including what amounts should be charged, we do not go into this blindly, not is this an experiment. ICAO, the UN agency for international aviation, has a set of guidelines for air traffic control fees that all developed countries but the U.S. already follow (in fact, the U.S. even has similar user fees in the case of overflights, *i.e.*, flights that do not land or depart in the U.S., like a Toronto—Mexico City flight, *e.g.*). These guidelines state, for example, that any charging scheme should be simple, trans-

parent, and equitable among airspace users. While ICAO principles must be adapted to the U.S. situation and legislation, they offer a starting point for what they should look like.

Question 1a. Would it lead to cuts to air traffic controller costs (by reducing salaries, benefits, and pensions), raise user fees, or both?

Answer. We cannot say with certainty what would happen to labor or fees. With respect to labor, given increasing instability of Congressional funding, there is no guarantee that salaries benefits or pensions would not be reduced even if FAA remains under government control. However, the experience in Canada has been that, in general, the employees of the new non-profit provider have been satisfied with the transition and are typically happier working there than they were when they were government employees. Regarding fees, experiences in other countries have shown us that the independent air traffic control providers are better at improving efficiency, namely by adapting new technologies faster than governmental entities, allowing fees to be kept in check. In the case of Canada, for example, fees are today 5 percent lower than they were in 2004, while inflation increased by more than 20 percent during the same period. Because the new entity is governed directly by users of the system, they have a strong incentive to keep fees in check and ensure that their employees happy.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN THUNE TO
JEFFERY A. SMISEK

Question 1. How does a standalone, commercialized air traffic control model address concerns about funding stability, continuity of operations, and the confidence among users regarding prospects for accelerating NextGen benefits in a way that cannot be achieved by more reforms within the government?

Answer. Chairman Thune, Airlines for America (A4A) does not believe the FAA has the best possible governance and funding structure to deliver the most efficient and modern air traffic control (ATC) system that the American consumers deserve. A government agency funded by taxes and subject to the annual budget process comes with far too many constraints and uncertainty to efficiently deliver ATC services and particularly the NextGen advances that the system requires.

There is an abundant amount of independent and insightful information on FAA's NextGen progress and efforts. In June 2014 the Assistant Inspector General for Aviation Audits at the U.S. Department of Transportation testified before the Commerce, Science and Transportation Committee stating—

“Since the effort began almost a decade ago, we [DOT IG] have reported on longstanding challenges and barriers that have limited FAA's progress in delivering NextGen capabilities, such as the Agency's inability to set realistic plans, budgets, and expectations, and clearly identify benefits for stakeholders.”

In May 2015 the National Academies of Sciences, Engineering and Medicine put out a congressionally mandated report on NextGen. A small excerpt from that release is below—

“The original vision for the Next Generation Air Transportation System is not what is being implemented today, and the Federal Aviation Administration should “reset expectations” for the program meant to modernize and transform the national airspace, says a new congressionally mandated report from the National Research Council.

NextGen, as the system is known, was designed to overhaul the U.S. air transportation system through procedural and technological improvements, including the use of newer technologies such as precision satellite navigation systems and a digital communications infrastructure, to increase capacity, reduce delays, and improve safety. Instead, NextGen today is a set of incremental changes that primarily emphasizes replacing aging equipment and systems. Although progress has provided some new capabilities and a foundation for further evolution, not all parts of the original vision will be achieved in the foreseeable future. The report says that FAA should realign stakeholder expectations by qualifying the early vision in a way that clearly articulates the new realities.”

Most recently, in August 2015, the U.S. Department of Transportation's Office of Inspector General (IG) reported that delays and cost overruns continue to plague the FAA's transition to NextGen. Focusing on the FAA's deployment of automation tools to optimize benefits of performance-based navigation (PBN) the IG report noted that, “FAA has not provided basic support to encourage its use, and additional enhancements are still required to further optimize PBN.” The IG also concluded

that the FAA is still “several years away” from deploying new controller technology to manage airport arrivals.

Recognizing the need to ‘reset expectations’, A4A sought to benchmark and do a fact-based assessment of the governance, financial and operational performance of the U.S., Canadian and European ATC models. A4A’s analysis suggests some basic principles for success in any Air Navigation Service Provider (ANSP). There must be:

- (1) Separation of the ATC operations from ATC safety regulation, in which a new, independent ANSP directs ATC operations and future ATC investment decisions, and safety regulation is provided by the Federal Government through a performance-based oversight system;
- (2) Independent, multi-stakeholder board governance free from political influence over decision-making;
- (3) A professional, effective management team of the ATC provider, incentivized to pursue safety and efficiencies without the constraints imposed on government agencies that hamper their ability to manage more nimbly and effectively;
- (4) A fair, self-funding user fee model based on the cost of ATC services allowing for access to capital markets and a steady, predictable and reliable stream of funding that is not subject to governmental budgetary constraints such as those that have recently resulted in sequester and furloughs of air traffic controllers;
- (5) The ability to manage assets and capital investments in a way that enables far greater speed to market of technological modernization; and
- (6) Transparency in user fees so that users and their customers alike know what they are paying, allowing users full ability to recover costs.

These success factors would lead to an effective operation because an independent ANSP would then operate with long-term funding and governance certainty, subject of course to strong safety regulation and oversight by the FAA. This new ANSP organization would be accountable to stakeholders and users of the system, driving effective decision making, long-term investments and efficient operations to capture the full benefits of the ATC system. Based on our analysis and the principles noted above, it is A4A’s position that a nongovernmental, nonprofit type governance structure for air traffic control—with the FAA retaining the role of safety regulator—would deliver the greatest benefits for a reformed ANSP because such a structure would continue to put safety first, while driving value for all stakeholders, including the traveling public.

Recent events have made clear that the current ATC system, while safe, is not without its own operational vulnerabilities that can lead to public failures. In late 2014, a fire set by a contract worker at the Federal Chicago Air Route Traffic Control Center snarled flights in the Midwest for an extended period of time. In August 2015, a glitch in a software upgrade at an FAA facility in Leesburg, VA canceled and delayed hundreds of flights throughout the Washington, D.C. metropolitan region.

The risk of doing nothing is high and working within the existing governmental system will not yield the necessary changes needed to modernize the U.S. ATC system. We cannot afford the status quo of a safe system that does not meet the ever growing and changing demands of our diverse aviation system. By following the principles described above we can achieve a U.S. ATC system that is both incredibly safe and greatly more efficient.

Question 2. One goal of efforts to modernize the air traffic control system has been to leverage technology to consolidate aging and costly air traffic control facilities. What are some of the efficiencies that you would expect a corporatized air navigation service provider would be able to achieve with respect to facility consolidation versus a government provider?

Answer. Predicting or forecasting specific changes to the system at this time is nearly impossible. A4A proposes that there be a two-year moratorium on significant changes to service levels after a new ANSP assumes responsibility for ATC. The new ANSP will need to initially work through transition issues and develop a day-to-day understanding of all the assets.

In the longer-term, for any assets owned by the ANSP, the entity should have the ability to dispose, replace or consolidate those assets as appropriate to deliver more effective and efficient services without politically driven restrictions. However, the FAA should retain safety oversight to review the ANSP’s safety assessment of any proposed changes and should have the ability to intervene for safety reasons only.

There should also be a notice and comment process for any facility closure or significant changes in service level, and facility realignment should be undertaken through a data-driven process in collaboration with the ANSP's labor unions.

Question 3. Among the international Air Navigation Service Providers that you have examined, were any going through a modernization effort similar to NextGen when they were separated from the safety regulator? How, if at all, would a transition to a new air traffic control governance model impact NextGen implementation?

Answer. A4A is advocating for an entirely new U.S. ANSP that takes the best attributes of established international models and effectively adapts them to create an ANSP that works for the complex U.S. system and its unique operating environment.

Directly comparing this undertaking to another country's experience creates an "apples to oranges" scenario. However, there are international examples of complex airspace with a diverse set of users where ATC reform has been successful, and the sector-based approach to air traffic control, coupled with the use of modern technology, make the business inherently scalable.

Please see answer to Question 1 for NextGen implementation information.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. DEB FISCHER TO
JEFFERY A. SMISEK

Question 1. I have read the concerns expressed by the general aviation community regarding "commercialization" or "privatization" of the air traffic control (ATC) system. Do you believe there is a way for us to reform this system to ensure safety, efficiency, and innovation, while protecting the concerns of general aviation?

Answer. Yes. It is the A4A position that a nongovernmental, nonprofit governance structure for air traffic control—with the FAA retaining the role of safety regulator—would deliver the greatest benefits for a reformed ANSP because such a structure would continue to put safety first, while driving value for all stakeholders, including general aviation and the traveling public. A more modern and efficiently run entity making decisions that benefit and are accountable to the users of the system will benefit all stakeholders.

Question 2. As the CEO of a major airline, can you please provide the committee with some examples of the challenges your company faces due to the inability of our current ATC system to keep up with the speed of innovation by private airlines? Can you also provide examples of how business is enhanced by private sector-oriented ATC systems in other nations?

Answer. From United's perspective, the best example I can give is that when I started in the industry in the mid-1990s, a flight from Reagan National to our hub in Newark was booked for 54 minutes. Now that same flight is booked for 84 minutes to account for delays resulting from our antiquated air ATC system. Airlines and our customers have also recently been plagued by major failings of the government-run ATC system. For example, in late 2014 a fire set by a contract worker at the Federal Chicago Air Route Traffic Control Center snarled flights in the Midwest for an extended period of time. In August 2015, a glitch in a software upgrade at an FAA facility in Leesburg, VA canceled and delayed hundreds of flights throughout the Washington, DC metropolitan region.

It is the A4A position that a nongovernmental, nonprofit type governance structure for air traffic control—with the FAA retaining the role of safety regulator—would deliver the greatest benefits for a reformed ANSP because such a structure would continue to put safety first, while driving value for all stakeholders, including general aviation and the traveling public. A more modern and efficiently run entity making decisions that benefit and are accountable to the users of the system will benefit all stakeholders.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. BILL NELSON TO
JEFFERY A. SMISEK

Question 1. How would a non-governmental air traffic control provider ensure that there is continued service and access to small communities and rural areas?

Answer. United Airlines, like most carriers serves small communities and rural areas. Passengers and revenue from these communities help sustain our service networks, so we are committed to seeing this service continue as part of transformational reform. Making the air traffic control (ATC) system more efficient will make the entire U.S. aviation system healthier. In turn, when the system is healthy, airlines do well, and when airlines are doing well, we invest in our people,

products and new service. Fixing the system will transform how we operate today. We believe that will be a plus for smaller communities.

Question 2. The United States has historically treated the airspace as a national asset, ensuring access to communities of all sizes and all users. Do you believe the air space should continue to be treated as a public resource? If so, how would you ensure that all users continue to have equal access to the airspace if air navigation service resources are no longer allocated by an impartial, governmental entity?

Answer. An ATC system that is responsive to the users of the system is good for all stakeholders and most importantly the traveling public. A primary advantage of ATC reform is the opportunity for the ATC organization to provide services that are more focused and responsive to the wide cross-section of system users. Specifically, any new air navigation service provider should be run by a Board of Directors nominated by entities that represent various stakeholders. A well-functioning Board of Directors with consultation from all users is critical to the success of any new ANSP.

Question 3. In your testimony on behalf of Airlines for America, you indicate that the airline industry believes fundamental reform is necessary. But your written statement specifically notes that Delta Air Lines is not represented by your testimony. Further, Delta submitted extensive comments for the record, outlining significant concerns about the negative consequences that would result from wholesale removal of Air Traffic Control from the FAA. Can you explain the significant difference of opinion among our country's largest airlines?

Answer. The majority of A4A's members support transformational reform.

Question 4. In the past, airlines have disagreed over the tax structure applicable to the industry. Most notably, a major battle erupted in the mid-1990s as legacy airlines sought to shift costs to low cost carriers through tax changes. In the wake of the September 11 attacks, airlines disagreed about the amount and structure of the new security fee imposed to fund the TSA and other security initiatives. A new system of user fees is likely to be imposed if air traffic control is privatized. How can we be assured the airlines will avoid the ugly disagreements of the past?

Answer. The majority of A4A's members now support transformational reform and recommend that the new ANSP's Board of Directors establish fees under a charging structure that is consistent with well-established international models and International Civil Aviation Organization (ICAO) charging principles.

Question 5. The operations of cargo airlines differ substantially from those of passenger airlines. They have different needs and impose a different burden on the air traffic control system, largely because most cargo airlines operate during nighttime hours. Likewise, cargo airlines support the costs of the system with unique taxes on air cargo. Do cargo airlines endorse the position to which you have testified here today? Do they agree that fundamental change is necessary—likely including a new system of user fees?

Answer. The majority of A4A's members support transformational reform and recommend that the new ANSP's Board of Directors establish fees under a charging structure that is consistent with well-established international models and International Civil Aviation Organization (ICAO) charging principles.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. RICHARD BLUMENTHAL TO
JEFFERY A. SMISEK

Question. I am a proud sponsor of S. 911, the Saracini Aviation Safety Act of 2015, which would require airlines to install secondary barriers on most commercial aircraft. These barriers would prevent access to the flight deck of the aircraft. The legislation is named in honor of Victor J. Saracini, a pilot killed when terrorists hijacked United Flight 175 on September 11, 2001. The FAA has encouraged and issued guidance on secondary barriers, but the FAA has not mandated their installation. What steps has United Airlines taken to install secondary barriers? Would those efforts prevent the type of hijacking we saw on United Flight 175?

Answer. We oppose Federal legislation to mandate secondary barriers on commercial aircraft. The U.S. airline industry remains committed to a multi-layered, dynamic and risk-based security system. Prior to the installation of fortified cockpit doors after 9/11, United Airlines voluntarily installed secondary barriers on some of our aircraft, however United and the industry believe that the decision about whether to install secondary barriers should be left to individual carriers. Resources spent to provide additional security for our passengers and crew should be dedicated based on areas of highest risk and in accordance with a multi-layered, dynamic approach to security.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. BRIAN SCHATZ TO
JEFFERY A. SMISEK

Question 1. Currently, air traffic control operations are covered by the Airport and Airway Trust Fund plus General Fund appropriations. At a minimum, those federally appropriated funds would have to be replaced under a privatized or corporatized model. It is not realistic to assume that efficiency improvements alone would be enough to make up for the loss of these funds, and funds raised through bonds would result in debt that would eventually have to be serviced.

If the air traffic control system is moved to a separate, self-funding entity, what model would you propose to generate sufficient funds to cover the cost of operations?

Answer. A4A recommends that the new ANSP's Board of Directors establish fees under a charging structure that is consistent with well-established international models and International Civil Aviation Organization (ICAO) charging principles to pay for the operations of the new ANSP.

Question 1a. Would it lead to cuts to air traffic controller costs (by reducing salaries, benefits, and pensions), raise user fees, or both?

Answer. Employees transferred to the new ANSP should be "held harmless" financially in the transfer. Compensation and benefits, including accumulated pension benefits, should remain the same and carry over, intact, to the new organization. Existing labor union representation and collective bargaining agreements should carry over to the new ANSP, with an arbitration process to resolve modifications necessary to account for the new ANSP being a commercial entity rather than a government agency.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. CORY BOOKER TO
JEFFERY A. SMISEK

Question. Your written testimony advocates for transformational reform of the air traffic control system and acknowledges that the Congressional process to achieve transformational reform is complex with lots of business risks. If Congress were to embrace some form of transformational reform, how would this impact the regular air traveler at Newark Liberty Airport, for instance? Will they notice a difference? How long would it take?

Answer. An ATC system that is responsive to the users of the system is good for all stakeholders and the traveling public especially those traveling through large hub airports like Newark. We have the safest ATC system in the world. We should also be striving to be the most efficient and most modern. General agreement has existed for years that we cannot continue to run the ATC system the same way as it has been since the 1950s and expect different results. A string of reports from presidentially appointed aviation commissions, the Department of Transportation Inspector General, the Government Accountability Office and independent private sector experts indicates that the FAA's ATC modernization efforts have been plagued by significant cost overruns and delays and call into question the ability of the FAA, under the existing funding and governance structure, to deliver the results that travelers, operators and the general public in the United States require.

The best example I can give is that when I started in the industry in the mid-1990s, a flight from Reagan National to Newark was booked for 54 minutes. Now that same flight is booked for 84 minutes to account for delays resulting from our antiquated air ATC system. A more efficient system will benefit all travelers including those at large hub airports like Newark.

We recommend a four year transition process that involves stakeholders working with the USG to ensure a safe and efficient transition, with the least disruption possible being the guiding principle.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. DEB FISCHER TO
PAUL M. RINALDI

Question. I have read the concerns expressed by the general aviation community regarding "commercialization" or "privatization" of the air traffic control (ATC) system. Do you believe there is a way for us to reform this system to ensure safety, efficiency, and innovation, while protecting the concerns of general aviation?

Answer. Many foreign nations have successfully separated the operation and regulation of their aviation system into an air navigation service provider and a civil aviation administration respectively. In September 2015, the DOT Inspector General did a report comparing the systems in the Canada, United Kingdom, Germany, and France. Report No. AV-2015-084. Citing a MITRE Study commissioned by the FAA,

dated October 2014, the DOT IG wrote, “Studies we reviewed, including a recent report commissioned by the FAA, indicated that separating air navigation and safety/regulatory functions has not impacted safety.” The DOT IG noted that the United States has the largest, most complex air transportation system in the world and has the most operations and a larger general aviation community than any of the foreign ANSPs. Any reform must preserve that size, complexity, and diversity. General aviation can continue to thrive in a new system as long as it ensures that there are no new financial barriers for non-commercial flight and flight schools and by ensuring that we maintain the current first come, first served model rather than a best equipped, best served model.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. BILL NELSON TO
PAUL M. RINALDI

Question. At the hearing you seemed to express openness to restructuring the current ATC system along the lines of the private, not-for-profit, NavCanada model. After NavCanada split off from the government agency Transport Canada, new air traffic control hires were no longer provided the same benefits package that existing air traffic controllers received, instead receiving a weaker pension. In the aviation world, airlines have negotiated these so-called “B Scales” for a number of their employee unions, with fewer benefits provided for new workers. Are NATCA members and leadership concerned that privatizing the air traffic control will lead to the creation of a two tiered benefit system for controllers?

Answer. NATCA is concerned about the possibility of reduced pay and benefits in a reform plan that would take air traffic control operations outside of the Federal Government. But, we are confident that H.R. 4441 provides for very strong protections for employee rights, pay, and benefits, as well as union rights to negotiate over wages, hours, and other terms and conditions of employment, including benefits. In order for NATCA to support any reform it must contain protections for employees and collective bargaining. Ranking Member DeFazio praised the labor code in the Chairman’s bill as extremely workforce friendly.

Specifically, H.R. 4441 provides that employees on the date of transfer would have the option of retaining their Federal employee retirement plan (either Civil Service Retirement System or Federal Employee Retirement System, as currently applicable) and Federal Employee Health Benefit Plan. The employer would be required to pay the government’s share to both programs and employees would receive credit for service with the corporation toward their retirement calculation. A new plan for the employer would be subject to negotiations and if NATCA and the employer could not reach agreement it would be subject to mediation and ultimately binding third-party arbitration, the same way other subjects of bargaining would be resolved under the bill’s provisions. We are confident that under this system we would be able to successfully negotiate fair pay and benefits for our membership, both current and future.

Presently, Federal employees are subject to an A-scale, B-scale, C-scale, and D-scale for the purposes of retirement, if you consider the A-scale CSRS, B-scale FERS, C-scale FERS-RAE, and D-scale FERS-FRAE. This does not include CSRS-offset or other even smaller pools of retirement programs. When these plans changed there was no duty to bargain nor binding arbitration; employees and their representatives were not part of the process, yet each provided for higher employee contributions and/or reduced benefits.

Under the Canadian system, the A-scale provides for a higher pension calculation, but a significant employee contribution. While the B-scale provides for a lower pension calculation, it also includes a 100 percent employer funded contribution, saving employees approximately 9 percent that they had previously had to contribute to their own retirement. It is definitely not a clear-cut case of reduced benefits, if employees contribute that 9 percent to a personal retirement-investment account, even though the pension calculation itself is lower.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. BRIAN SCHATZ TO
PAUL M. RINALDI

Question 1. As you mentioned in your testimony, increasing hiring efforts this year and next year will not make up for the attrition in the air traffic controller workforce since 2013, unless training and placement processes are made a higher priority.

In the context of FAA reauthorization, what will be required to ensure facilities are adequately staffed with people who have the necessary levels of experience?

Answer. NATCA has consistently stated that the status quo is unacceptable when it comes to funding and air traffic controller staffing. There are many reasons that controller staffing has reached crisis level and, as a result, NATCA believes that the FAA must take a holistic, collaborative approach to resolve its critical staffing issues. The first step is for Congress to pass an FAA Reauthorization bill that provides for the kind of stable, predictable funding that is necessary.

As for short-term staffing solutions, one option that NATCA supports is the passage of H.R. 5292 (The Air Traffic Controller Hiring Improvement Act of 2016), which would help ease some of the FAA's hiring and staffing problems. NATCA supports a continuously open vacancy announcement and preferential consideration for certified controllers with at least 52 consecutive weeks of experience involving the active separation of air traffic for the FAA, DOD, within the Federal Contract Tower program, and H.R. 5292 provides an avenue for such a program. NATCA also supports the reduction and/or removal of the bureaucratic red tape that has plagued the FAA's hiring, placement, and transfer processes for years.

In addition to these changes, NATCA supports Congress's adoption of the FAA and NATCA's jointly-developed certified professional controller (CPC) staffing target numbers as opposed to the FAA's flawed Controller Workforce Plan (CWP) staffing numbers, which counts a brand new developmental trainee as equal to a 20 year plus veteran CPC when measuring facility staffing levels. In essence, the CWP is misleading because it uses finance numbers rather than operations numbers for assessing the FAA's current staffing situation by lumping together CPCs with other controllers who are not yet fully certified. Adopting the FAA and NATCA's jointly developed staffing numbers is critical to ensure that each facility is staffed with controllers who have the necessary levels of experience. Otherwise, it will appear as if the FAA has fixed some of its staffing issues in certain critical facilities when, in fact, the Agency merely flooded the facility with developmental trainees fresh out of the Academy.

Question 2. Currently, air traffic control operations are covered by the Airport and Airway Trust Fund plus General Fund appropriations. At a minimum, those federally appropriated funds would have to be replaced under a privatized or corporatized model. It is not realistic to assume that efficiency improvements alone would be enough to make up for the loss of these funds, and funds raised through bonds would result in debt that would eventually have to be serviced.

- a. If the air traffic control system is moved to a separate, self-funding entity, what model would you propose to generate sufficient funds to cover the cost of operations?
- b. Would it lead to cuts to air traffic controller costs (by reducing salaries, benefits, and pensions), raise user fees, or both?

Answer. NATCA has made clear that it does not support any one particular reform model over another, but that any proposed FAA reform model must accomplish the following four things: (1) ensure that NATCA's bargaining unit employees are fully protected; (2) retain safety and efficiency as top priorities; (3) provide for a stable and predictable funding stream that adequately supports air traffic control services, staffing, hiring and training, long-term modernization, preventative maintenance, and ongoing modernization to infrastructure; and (4) maintain a dynamic aviation system that continues to provide services to all segments of the aviation community, from commercial passenger carriers and cargo haulers to business jets and general aviation, at all major airports and small airports in rural areas. In its current form, House T&I Committee Chairman Bill Shuster's long-term FAA Reauthorization legislation (AIRR Act) addresses these four primary issues of concern. The International Civil Aviation Organization (ICAO) weight and distance model that has been adopted in most nations would provide the backbone for any funding scheme, however NATCA is agnostic with regard to applying any particular rates or fees to the different segments of the aviation community.

NATCA does not and would not support any solution to providing stable predictable funding that would come at the expense of employee salaries, benefits, or pensions. The AIRR Act preserves negotiated agreements including pay and benefits, and provides that current Federal employees who transfer to the corporation would be eligible to remain in the Federal Employee Health Benefit Plan and the Civil Service Retirement System or Federal Employee Retirement System, as applicable. Employees newly hired by the corporation and transferring employees who elect to do so, would participate in plans negotiated by NATCA and provided to corporation employees. The protection of current employees' benefits and the ability for NATCA to be involved in the collective bargaining process to negotiate benefits for corporation employees is critical to our support of any reform legislation.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. CORY BOOKER TO
PAUL M. RINALDI

Question. You reference in your written testimony that NavCanada had a “difficult and lengthy transition period.” From an air traffic controllers’ perspective, what were the difficulties, how might these be exacerbated by the complexity of the U.S. airspace, and how were they overcome?

Answer. In October 2014, MITRE Corp. released a report summarizing the governance, autonomy, structure, and funding of the Civil Aviation Authority (CAA) in six countries and discussed any lessons learned from their separation from the Air Navigation Service Provider (ANSP). The study included the United Kingdom, Canada, New Zealand, Australia, France, and Germany.

In the section regarding transition, the study found:

Three particular lessons learned and associated recommendations were repeatedly expressed: operate the CAA and the ANSP as functionally separate units for a few years prior to complete separation, use that time to develop and review comprehensive written regulations that will form the foundation for the relationship between the CAA and the ANSP, and establish a clear understanding as to the broader division of roles and responsibilities between the CAA and the ANSP.

Each of these other nations is quite different than the U.S. National Airspace System, in terms of size, density, complexity, traffic diversity, and other factors, so none of the other nations’ transitions can be directly comparable. A successful transition will require the appropriate amount of time for the regulatory FAA and the new air traffic entity to establish appropriate boundaries and procedures. When NATCA received a briefing by the MITRE report authors, we learned that too short a transition period could actually lead to a longer period of time before the new entity and the regulator are successful.

NavCanada’s transition was particularly difficult because it was required to purchase the air navigation system from the government. To do so, the newly formed corporation had to take on considerable debt. Then, in the aftermath of the terrorist attacks of September 11, 2001, it faced an immediate traffic and revenue decline of 10 percent resulting in a C\$145 million shortfall in 2002 and an anticipated cumulative shortfall of C\$360 from 2002–2005, making debt service extremely difficult. NavCanada was forced to undergo financial restructuring in order to generate cash flow to support operations and required capital spending. The AIRR Act does not require the new ATC Corporation to purchase the assets from the FAA, which would make the transition significantly easier and prevent significant air traffic downturns from immediately affecting the corporation’s ability to be successful.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. DEB FISCHER TO
ED BOLEN

Question. I have read the concerns expressed by the general aviation community regarding “commercialization” or “privatization” of the air traffic control (ATC) system. Do you believe there is a way for us to reform this system to ensure safety, efficiency, and innovation, while protecting the concerns of general aviation?

Answer. Our airspace belongs to the American public. It does not belong to any private company, or group of companies. It doesn’t belong to any segment of the aviation industry, or even the aviation industry itself. The airspace belongs to the American public, and it should be operated for the public’s benefit. We stand by our oral and written testimonies given and submitted to the Committee on May 19, 2015.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. BRIAN SCHATZ TO
ED BOLEN

Question 1. Currently, air traffic control operations are covered by the Airport and Airway Trust Fund plus General Fund appropriations. At a minimum, those federally appropriated funds would have to be replaced under a privatized or corporatized model. It is not realistic to assume that efficiency improvements alone would be enough to make up for the loss of these funds, and funds raised through bonds would result in debt that would eventually have to be serviced.

If the air traffic control system is moved to a separate, self-funding entity, what model would you propose to generate sufficient funds to cover the cost of operations?

Question 1a. Would it lead to cuts to air traffic controller costs (by reducing salaries, benefits, and pensions), raise user fees, or both?

Answer. As you said, in today's system, we have trust fund and general fund monies that make up the FAA budget. If you restructure FAA and move to a privatized or corporatized model, the general fund money goes away. Users are then left with three options to fund the system: cut costs; increase taxes, fees and charges for users; or borrow money which will increase costs to users since the debt needs to be serviced. Sequestration has shown us that cutting costs is difficult and can affect service to small and rural communities. Increasing taxes, fees, and charges or borrowing money increases costs for the users of the system and no stakeholder has said they will pay more.

As a result, we believe costs will go up for the users and service to small, rural and mid-sized communities throughout the country will be cut and/or severely decreased.

